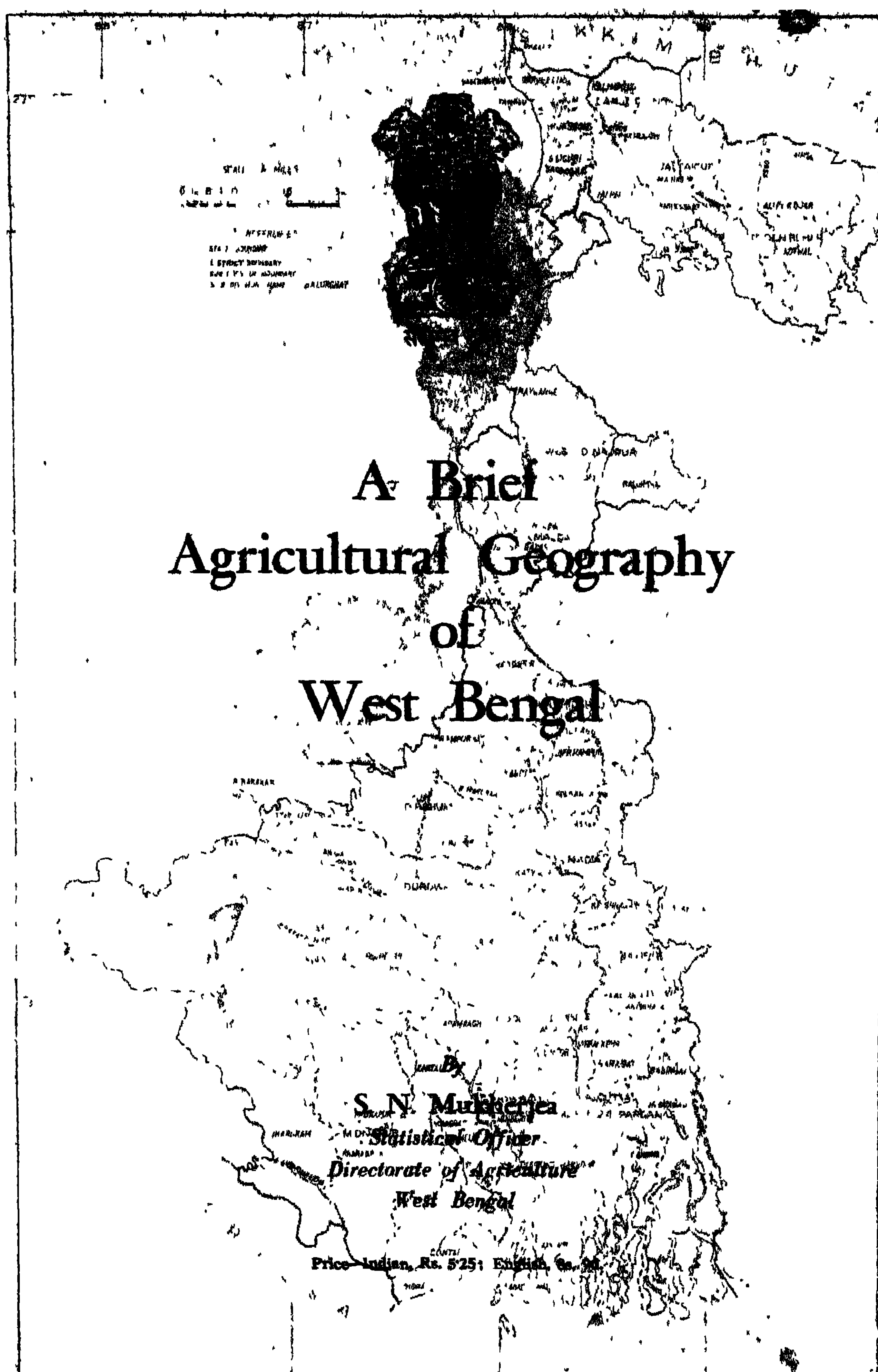


A Brief Agricultural Geography of West Bengal

By

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Price—Indian, Rs. 5·25; [illegible]

FOREWORD

AGRICULTURE concerns the growth and the multiplication of a living organism, viz., the plant. Like all other living organism the life of the plant depends on, and is conditioned by, its environments—the range of temperature, the humidity, the hours of sunshine, the rainfall and its distribution over the seasons, the chemical and the physical characteristics of the soil, the building up of the soil by deposits of river-borne silt and the decay and erosion of the soil due to various reasons, the altitude, the slope and the drainage of the land, the river and irrigation systems, and many other factors which go to make up the totality of its environment.

Agriculture, moreover, is the business of economic production. Like any other economic production it is influenced by such things as systems of transport and communication, the proximity of urban areas with concentrated population representing demand, the existence of markets, and the impact of other economic activities in the area

The study of Geography involves an examination and an understanding of the environment for man as well as for crops and other economic plants It involves also a study of the way in which the environment and human economic activities have repercussions on each other The study of Geography is, therefore, an essential adjunct to the study of agriculture—whether of the physical or biological sciences in their application to agriculture or of the economic sciences in similar application To the student of Geography also it is important and interesting to study how the environmental factors have effected and influenced one of man's most vital activities, viz., agriculture I am glad, therefore, that Shri S N Mukherjee has written this book in which agriculture of West Bengal and the geography of the State are dealt with in their interrelation I am sure that his book will be of interest not only to students of Geography and agricultural workers, but also to those who seek a broader and deeper knowledge of West Bengal

K. SEN.

AGRICULTURE, ANIMAL HUSBANDRY AND
FORESTS DEPARTMENT,
WEST BENGAL SECRETARIAT,
CALCUTTA.
The 12th August, 1919

PREFACE

IN 1949 a booklet with the name "Prospectus of Agriculture in West Bengal" was published by the Departments of Agriculture, Forests and Fisheries and Irrigation and Waterways, Government of West Bengal Just after the partition it was felt necessary to present a picture of the state of conditions of agriculture, irrigation, drainage, live-stock, etc., of the newly-born State of West Bengal The book touched briefly on all these points and played its role duly. But with the passage of time, most of the statistics quoted became back-dated Several other publications came out on different occasions with current picture regarding various aspects of agriculture

In 1951, the first census was held after partition. The census reports are rich with facts and information Since the publication of the district gazetteers, no such detailed reports were published As it should have been, they contain not only report on agriculture but on other points too.

This book has been prepared with limited views and, as such, has its own limitations. Obviously, we do not claim the volume as complete by itself, rather only hope that in time it would gradually receive improvement and finally would become a standard volume

It is not a big book but still its compilation was a difficult task for the small group of men who took it up Data had to be collected from different sources and care had to be taken to see that no wrong information is given out. But it is apprehended that a few mistakes might still have crept in If such cases are pointed out to us, we would be thankful We would also be thankful for any suggestions which will help to improve this book The book has been prepared for presenting briefly some information relating to agriculture in general Discussion on the economic aspect of agriculture has been left out.

There is one great difficulty with books that deal with statistics Current statistics, in a few years' time become back-dated and, as such, the volume needs being made up-to-date from time to time In view of this, empty spaces have been kept in tables so that readers might note down new data made available from time to time Data and information have been collected freely from different official publications and those are acknowledged with thanks (The Government of West Bengal is not responsible for views expressed in this book)

I must express my obligation to Shri Nalin Chandra Moitra, Shri Priyabrata Das Gupta, Shri Sanjib Kumar Bhattacharjee and Shri Subhash Chandra Chowdhury for helping me in compiling, computing, typing and comparing Without their hearty co-operation the volume could not have been published at all.

I am thankful to Dr T C Roy, Publicity Officer, Directorate of Agriculture, for his helpful suggestions and comments I am indebted to Dr S. K Mukherjee, Agricultural Chemist, Directorate of Agriculture, and Miss Suprova Chakravarty for the maps and diagrams The Extension Officers of this Directorate provided with some information, for which I am thankful to them

I am deeply indebted to Shri K. Sen, I. C. S., Secretary, Agriculture, Animal Husbandry and Forest Department, Shri A. Mitra, I. C. S., Secretary, Commerce and Industries Department, Dr H. K Nandi, Director of Agriculture, and Shri N C Chakraborty, Officer on Special Duty and *ex officio* Deputy Secretary, Agriculture, Animal Husbandry and Forest Department, for their kind encouragement

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WRITERS' BUILDINGS, CALCUTTA,
The 12th August, 1919

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MAP OF WEST BENGAL

SCALE IN MILES

16 12 8 4 0 16 32

REFERENCES

STATE BOUNDARY

DISTRICT BOUNDARY

SUB DIVISION BOUNDARY

SUB DIVISION NAME BALURGHAT

87°

27°

SIKKIM

BHUTAN

NEPAL

EAST PAKISTAN

BIHAR

ORISSA

DARJEELING

KALIMPONG

KURSEONG

SILIGURI

JALPAIGURI

ALIPUR DUAR

COOCH BEHAR

RAYGANGE

WEST DINAJPUR

BALURGHAT

MALDA

ENGLISH BAZAR

MURSHIDABAD

LALBAGH

BERHAMPUR

BIRBHUM

BOLPUR

ASANSOL

BURDWAN

KATWA

KALNA

KRISHNAGAR

PURULIA

BANKURA

BISHNUPUR

ARAMBAGH

SERAMPORE

BARRACKPUR

BARASAT

BASIRHAT

HOWRAH

CALCUTTA

ULUBERIA

ALIPUR 24 PARGANAS

GHATAL

MIDNAPUR

JHARGRAM

KHARAGPUR

TAMLUK

DIAMOND HARBOUR

CONTAI

DIGHA

CHAPTER I

(Tables 1 1 to 1 6)

(Area, population, physical description, industries, developmental projects and a note on land tenure system)

1

The Ganges flows south-eastward along the plains of north India The Brahmaputra comes down in a south-westerly course across the gorges, valleys and plains of north-eastern India These two mighty rivers meet and then flow together to the Bay of Bengal The great delta that has been developed by these two rivers with their tributaries and distributaries was known as Bengal (Area—82 876 sq miles, population—61 46 million in 1941) till August 15, 1947

2

With the partition of India, West Bengal was born on the 15th August, 1947, out of the western portion of Bengal West Bengal started with an area of 29,370 sq miles, i e , only 37 46 per cent of the area of undivided Bengal It is the smallest Part A State in India and covers only 2 45 per cent (approximately) of the area of India It holds some 6 87 per cent of total Indian population (361 1 million)

3

Along the north of West Bengal stand the Himalayan ranges The Bay of Bengal washes her southern boundary In the east lie Bhutan, Assam and East Pakistan, in the north Sikkim, in the west Nepal and Bihar and in the south-west lies Orissa

4

The State is situated between 21°31′ and 27°14′ north latitudes 86°35′ and 89°53′ east longitudes Across the State runs the Tropic of Cancer (Karkat Kranti)

5

The State (Indian) of Cooch Behar with an area of 1,318 sq miles and population of 706,200 was merged into West Bengal on January 1, 1950 Cooch Behar is now a district of the State Then on October 2, 1954, Chandernagore, previously a French settlement with an area of 3 73 sq miles and a population of 19,909 was merged with the State With slight alterations in the adjoining administrative areas, Chandernagore has been made a subdivision of Hooghly district

6

There are 14 districts in the State viz , (i) Howrah (ii) Hooghly (iii) Burdwan, (iv) Midnapore, (v) Bankura, (vi) Birbhum, (vii) Darjeeling, (viii) Jalpaiguri, (ix) Cooch Behar, (x) West Dinajpur, (xi) Malda, (xii) Murshidabad, (xiii) Nadia and (xiv) 24-Parganas These are administrative blocks and they are grouped under two divisions, viz , Burdwan Division comprising of districts (i) to (vi) and Presidency Division comprising of districts (vii) to (xiv) Though geographically the city of Calcutta is embeded within 24-Parganas, in consideration of its importance, the city remains separated from the district For administrative affairs Calcutta (proper), thus, stands out as an island district within 24-Parganas

7

The present districts of Malda, West Dinajpur, Nadia and Jalpaiguri have been carved out of the old districts of Malda, Dinajpur, Nadia and Jalpaiguri of undivided Bengal Area of present Malda (1 407 9 sq miles) is nearly two-thirds of the undivided district (2,004 sq miles), West Dinajpur (1 384 8 sq miles) is nearly one-third of undivided Dinajpur (4,000 sq miles) and present area of Nadia (1,527 2 sq miles) is nearly half of undivided Nadia district (2,879 sq. miles) Jalpaiguri lost five police-stations to Pakistan (305 sq miles) and the remaining portion (2,374 sq miles) forms a district of the State A part of old Jessore district, consisting of Bongaon and Gaighata police-stations (roughly 320 sq miles), came over to West Bengal and has been tagged to 24-Parganas as a subdivision (Bongaon subdivision) Murshidabad lost a few square miles with the partition Some areas that are under administrative jurisdiction of Cooch Behar, lie scattered within the territory of East Pakistan Area of such Pak-enclaves is roughly 23,000 acres (i e , 35 sq miles)

8

The new State was born truncated The districts of Jalpaiguri, Cooch Behar and Darjeeling remain separated from the other districts of the State Malda and West Dinajpur are two contiguous districts in the north of Murshidabad district In between Malda and Murshidabad flows the river Ganges Want of a bridge over the Ganges, which is very wide here and carries on constant alluvion and diluvion along her banks, virtually acts as a barrier

9

Thus, in a way Malda and West Dinajpur still remain detached from the lower and northern districts and the State is constituted of three separate blocks

10

Table 1 1 shows the geographical areas, rural and urban population, agricultural population and density of population per square mile of the different States of India Relative size of West Bengal with reference to some other States is given in the following table (table A)

Table A

States	Area of West Bengal as percentage	Agricultural population as percentage to total population of the State
M P	23 8	60 0
Madras and Andhra	25 0	64 9
U P	27 4	74 2
Bombay	27 9	61 5
Assam	36 5	73 3
Bihar	44 1	86 0
Orissa	51 6	79 3
Punjab	83 1	63 8
West Bengal		**57·2**

11

Excepting Delhi, which is a Part C State, and is the capital of India (area 578 sq miles, agricultural population 9 9 per cent of total population) and Travancore-Cochin, which is a Part B State, density of population per square mile is the highest in West Bengal Density of population per square mile in Delhi is 3 017 1,015 in Travancore-Cochin and 799 in West Bengal Among Part A States, next to West Bengal comes Bihar with a density of population per square mile at 572 and

U P with 557 Table B shows net cropped area as percentage to total geographical area and *per capita* availability of cropped area in some States

Table B

States.	Net cropped area as percentage to geographical area	Per capita available acreage	
		Net cropped area	Total cropped area
West Bengal	**61 1**	**0 49**	**0 57**
Bombay	57 8	1 14	1 18
U P	55 9	0 63	0 78
Punjab	48 8	0 98	1 08
Bihar	47 8	0 55	0 67

12

For India as a whole, on an average, the net cropped area available per head comes to be 0 8 acres and in terms of total cropped area it is 0 9 acres

13

In spite of having keen pressure on agricultural lands, 57 2 per cent of the total population in West Bengal is agricultural ([1]) Of course, it is worth mentioning that this is the lowest percentage estimate of agricultural population to total population for the Part A States Table A shows the agricultural population of the different States as percentages to the corresponding total population ([2])

14

In India, according to Census, 1951, 69 80 per cent of the total population was found to be agricultural population (i e , depending wholly or partly on agriculture) ([3])

15

Heavy pressure on land with fragmentation of the holdings ([4]) stands partly on the way of modernization and quick development in agricultural sector and that affects the process of economic advancement of agricultural population More

([1])Table 1 5 gives the picture of the distribution of agricultural population of the State It shows that according to census, 1951 out of the total population of 24,810,308 the agricultural population was 14,195,161 This population may be grouped into four classes, viz —

Class	Population	Class population as percentage to total agricultural population	Class population as percentage to total population
(i) Cultivators of land wholly or mainly owned and their dependents	8,023,757	56 5	32 3
(ii) Cultivators of land wholly or mainly unowned and their dependents	2 980 402	21 0	12 0
(iii) Cultivating labourers and their dependents	3,041,881	21 4	12 3
(iv) Non cultivating owners of land, agricultural rent receivers and their dependents	149 121	1 1	0 6
	14,195,161	100 0	57 2

([2])The following table shows the distribution of agricultural population in some other States in India in 1951 (expressed as percentage to total population) —

Class	Assam	Bihar	Bombay	Madras	M P	Orissa	U P
(i)	57 9	55 3	40 7	35 0	49 5	59 5	62 3
(ii)	12 8	8 3	9 7	9 6	4 5	5 9	5 2
(iii)	1 7	21 9	9 0	18 2	20 4	12 3	5 7
(iv)	0 9	0 6	2 0	2 2	1 6	1 5	1 1
Total	73 3	86 1	61 4	65 0	76 0	79 2	74 3

It is worth noting that class (i) bears lowest percentage to total population in West Bengal Total of classes (ii) and (iii) covers some 24 3 per cent of population of the State This points out the prevailing over crowding in agricultural sector This indirectly suggests further why, in general, agriculture is uneconomic in the State

([3])It is interesting to note the percentages of total population that is agricultural in different areas of the world

Region	Agricultural population as percentage to the total population
Europe (excluding U S S R)	32
North America	18
Central America	66
South America	59
Oceania	29
Asia (excluding U S S R)	70
Africa	73
World (excluding U. S S R)	**59**

It shows that economically backward areas have larger percentage of their total population as agricultural population compared to those of economically advanced areas But such lesser percentage of population that works for agriculture in different countries does not suggest any lesser interest in agriculture in these countries On the other hand, advanced and modernized agriculture have gone to add prosperity in these countries

On an average, Denmark has 63 8 per cent Italy 55 2 per cent France 38 6 per cent , Belgium 34 3 per cent , U K 29 8 per cent , U S A 23 5 per cent and Japan 13 8 per cent respectively of their total area as 'arable land (including fallow) and orchards"

([4])Many people either have no lands of their own or have so small sizes that they cannot produce enough to earn their livelihood They have to work as agricultural labourers under bigger land owners or else where

The following table shows the distribution of different sizes of holdings under owner cultivators in the State (as it stood in 1951) —

Size of holding	Frequency as percentage to the total number of owner cultivators
Less than 2 acres	34 5
Between 2 and 3 acres	15·3
Between 3 and 4 acres	12 3
Between 4 and 5 acres	8 6
Between 5 and 10 acres	20 3
More than 10 acres	9 0
	100 0

The average size of holding per owner cultivator family came out to be only 1 82 acres in 1951 (including Cooch Behar) against the corresponding estimate of 5 17 acres of 1940 (excluding Cooch Behar)

An average size of family consists of 4 9 heads in this State Due to fragmentation, sizes of plots also became smaller and smaller Mostly, the cultivators do not own a compact block of land, their possessions often lie widely scattered

industrialisation in past could have averted the existing plight of the country. The State has already some industries and other new ones are also being developed gradually. This again invites people of other States to throng in this State for employment. According to Census, 1951, 18.81 lakh migratories from other States were recorded in West Bengal. Such migration is on the increase and as such the pressure on land due to such immigrants is also increasing (Table C), though very seldom they take up agriculture as their occupation.

Table C

Percentage of all immigrants from outside West Bengal to its population

	1951			1941	1931
	Displaced from Pakistan	Immigrants	Total		
Percentage of immigrant males to total males of the State (out of 39.9 lakh, 30.9 lakh have come to West Bengal, every day the number is increasing further)	8.4	12.7	21.1	13.1	11.2
Percentage of immigrant females to total females of the State	8.6	6.9	15.5	5.3	5.2
Percentage of total immigrants to total people of the State	8.5	10.5	18.5	9.5	8.4

16
The main reason of quick increase in population is the arrival of displaced persons from East Pakistan. Still people are coming over to this State from East Pakistan.

17
According to Census, 1951, the number of displaced persons was 20.99 lakh, this is rising up gradually ([5]).

18
Table 1.3 shows the districtwise growth of population in the State since 1901. It shows that 12.7 per cent increase in population was recorded in 1951 over 1941. ([6])This table points out further that since 1921, population of the State is increasing steadily.

Table D.

Administrative divisions of the State

Districts	Subdivision	Police-stations (§)	Union(†)	Inhabited villages	Towns	Occupied houses (*)		
						Rural	Urban	Total
Burdwan	4	24	211	2,649	11	415,572	65,276	480,848
Birbhum	2	11	173	2,207	5	224,842	14,828	239,670
Bankura	2	19	183	3,525	5	266,657	24,069	290,726
Midnapore	5	34	304	10,517	11	668,132	51,231	719,363
Howrah	2	16	82	815	4	235,892	122,989	358,881
Hooghly	4	18	129	1,906	11	275,061	79,017	354,078
24 Parganas	6	40	281	3,846	33	640,331	308,612	948,943
Calcutta		28			1	350,916	606,026	606,026
Nadia	2	13	131	1,238	7	198,037	35,837	233,874
Murshidabad	4	21	160	1,901	6	326,933	25,191	352,124
West Dinajpur	2	11	94	2,303	3	142,323	7,747	150,070
Malda	1	10	50	1,577	2	176,768	6,332	183,100
Jalpaiguri	2	12	77	776	2	188,215	11,423	199,638
Darjeeling	4	12	-	605	4	74,302	19,084	93,386
Cooch Behar	5	8	-	1,198	6	135,650	9,819	145,469
West Bengal	**45**	**280**	**1,884**	**35,063**	**114**	**3,969,615**	**1,387,481**	**5,357,096**

19
Table 1.2 shows the administrative divisions down to police-stations with area, population, number of villages and towns. Table D above presents the district-wise summary of the administrative divisions of the State (according to Census, 1951).

([5]) According to the available information the following figures show the position as it stood up to July 31, 1956 —

(i) 39.9 lakh refugees have come over to India from East Pakistan.

(ii) Out of the people that left India for East Pakistan 10 lakh have come back.

([6])Mean decennial rate of growth (in percentage) of population, as noted in 1951 was 20.8 in Bombay, 17.4 in Assam, 13.4 in Madras (with Andhra), 12.7 in West Bengal, 11.2 in U. P., 9.6 in Bihar, 7.9 in M. P., 6.2 in Orissa and 12.5 for India as a whole. Excluding increase in population due to influx of displaced persons, the mean decennial rate of growth of population for West Bengal comes out to be 4 per cent.

(§)Lately one Police station has been added to each of the districts of Burdwan, Hooghly and 24 Parganas and thus the total has come up to 283. As these 3 new Police stations have been demarked out of these 280 Police stations, reference has been made to them (280 Police stations), with respect of which Census, 1951 was conducted.

(†)This list is based on districtwise distribution of Union Boards in the State.

(*)This figure relates to the number of households as distinct from Census houses.

Table E gives the picture of the relative sizes of geographical area and population of different districts according to Census, 1951

Table E.

Districts	Area as percentage to geographical area of the State	Population as per centage to the population of the State	Density of population per square mile
Calcutta	0 10	10 27	78,858
24-Parganas	18 17	18 58	817
Nadia	4 86	4 61	759
Murshidabad	6 08	6 92	828
Burdwan	8 72	8 83	810
Birbhum	5 61	4 30	612
Bankura	8 53	5 32	498
Midnapore	16 92	13 54	639
Hooghly	3 89	6 26	1,286
Howrah	1 81	6 50	2,877
Jalpaiguri	7 65	3 69	385
Darjeeling	3 86	1 79	371
Malda	4 18	3 78	674
West Dinajpur	4 46	2 90	520
Cooch Behar	4 26	2 71	507
West Bengal	**100 0**	**100 0**	**799**

20

An area, where a municipality functions, irrespective of its population strength, is known as a town Apart from such 81 municipal areas, an area, important from business and administrative points of view, where population is not less than 5,000 and density of population per square mile not less than 1 000 and where 75 per cent of the population comes from non-agricultural group, may also be considered as a town by the Government All total, there are 114 towns in the State There are seven towns having population more than one lakh, 14 towns having population between 50,000 and 100,000, 27 towns having population between 20 000 and 50,000, 40 towns having population between 10,000 and 20,000, 15 towns having population between 5,000 and 10,000 and 11 towns having population less than 5,000 According to Census, 1951, there are 31 non-municipal and 82 municipal towns and one Cantonment (Barrackpore) in the State Of these seven cities, i e, towns with population of more than one lakh, excepting Khargpur (population 129,636), the other six cluster round Calcutta and actually are the extension of Calcutta city Mekligunj (Cooch Behar district) is the smallest town of the State and has a population of 1,356

21

In West Bengal, there are 280 police-stations and of these, 28 are within Calcutta and 5 within Howrah city Industrialisation has, obviously, played a great role on the pattern of distribution of the population in the State There are 35,063 villages in the State of which some 30 per cent are in Midnapore, 11 per cent in 24-Parganas, 10 1 per cent in Bankura, 7 6 per cent in Burdwan, 6 6 per cent in West Dinajpur, 6 3 per cent in Birbhum, 5 4 per cent in Hooghly, 5 4 per cent in Murshidabad, 4 5 per cent, in Malda, 3 4 per cent in Cooch Behar, 3 5 per cent in Nadia, 2 3 per cent in Howrah, [illegible] per cent in Jalpaiguri and 1 7 per cent in Darjeeling

22

Another remarkable feature is that out of 30,775 sq miles, 62 towns and cities (with 104 police-stations) having density of population at more than 1,050 per square mile cover only some 4,126 sq miles (i e, 13 4 per cent) but hold in 42 7 per cent of the total population of the State On the other hand, in the remaining 86 6 per cent of the area (with 176 police-stations) 57 3 per cent of the population live in and in this area again there are 51 non-industrial towns Out of these 176 police-stations, 26 police-stations cover 6 9 per cent of the area of the State and hold 12 2 per cent of the total population of the State. Thus 130 police-stations in the State cover 20 3 per cent of area and have 54 9 per cent of the population of the State Table I 4 gives the changing picture of distribution of population in urban and rural areas In 1951, 24 80 per cent of the total population was urban (i e, 75 20 per cent was rural) whereas in 1941, 21 25 per cent of the corresponding total population was urban (i e, 78 75 per cent was rural) In 1951, average density of population per square mile was 610 in rural areas

23

Industry is not distantly related to agriculture in the sphere of economic condition of the State Many industries foster either directly or indirectly the development of agriculture But it is very difficult to draw the picture of industries that are linked up with agriculture It is more so, if inter-dependence between agriculture and industry has to be indicated and referred to

24

However, a brief description of some industries is given below Table F shows a brief list of number of registered industries working in the State during 1952 and 1953 Table 1 6 shows the districtwise distribution of certain classes of registered working industries during the year 1951 It shows a heavy concentration of industries in 24-Parganas (331), Howrah (99), Calcutta (76) and Hooghly (32) Out of the 1,074 units in the State, 538 are situated in the area Apart from these industries, all the jute mills in the State are in this area The 16 cold storages that the State has, are all situated in and near Calcutta

25

Besides these there are many other industries dealing with various types of commodities Some of them have different indirect influence on agriculture but to avoid details they are left out of the present volume

Table F.

A brief list of registered working factories in West Bengal (*)

Nature of industry	Number 1952	Number 1953
(1) Cotton ginning and baling	10	10
(2) Cotton mill	42	43
(3) Silk mill	8	7
(4) Woollen mill	3	4
(5) Knitting mill	61	63
(6) Jute presses	23	24
(7) Others (gins and presses)	3	4
(8) Dairy products	5	5
(9) Canning and preservation of fruits and vegetables	5	5
(10) Cold storage	2	2
(11) Saw mill	35	36
(12) Plywood	26	28
(13) Boxes and packing	3	4
(14) Tanneries and leather finishing	8	46
(15) Footwear, wearing apparel, etc	13	13
(16) Rice mill	255	283
(17) Flour mill	13	13
(18) Sugar mill	1	1
(19) Sugar confectionery, chocolate, etc	2	3
(20) Bakery products	43	41
(21) Edible oils	57	59
(22) Hydrogenated oils	6	6
(23) Tea	278	273
(24) Starch	[illegible]	2

(*)*Source* Chief Inspector of Factories, West Bengal

Nature of industry	Number	
	1952	1953
(25) Cigarette	4	3
(26) Bidi	6	6
(27) Paper	5	5
(28) Paper board and straw board	9	11
(29) Others (paper products)	16	18
(30) Tyres	2	2
(31) Other rubber products	28	28
(32) Cordage, rope and twine	8	9
(33) Lac	5	5
(34) Vegetable and animal oils and fats (non-edible)	4	4
(35) Electricity	43	42
(36) Water supply	11	11
(37) Sanitary services (pumping and sewerage)	4	5
(38) Gas manufacture and distribution	7	7
(39) Manufacture of ice	5	6
(40) Agricultural implements	6	7
(41) Artificial manures	10	11
(42) Basic chemicals (including fertilizers)	5	5
(43) Fine and pharmaceutical chemicals	38	39
(44) Textile machinery and accessories	7	6

26
The above discussion has been based only on factories working under "Factories Act, West Bengal" Details regarding the other factories are not readily available

27
However, here it must be mentioned that the contribution of small-scale and cottage industries in the economy of the State is quite important Various types of commodities are produced out of such industries

28
The following is a brief list of types of small-scale and cottage industries (relating to agriculture) of the State —

(*i*) Handloom cotton weaving
(*ii*) Handloom wool weaving
(*iii*) Handloom silk weaving
(*iv*) Handloom jute weaving
(*v*) Silk reeling
(*vi*) Silk cocoon rearing
(*vii*) Hosiery
(*viii*) Leather tanning
(*ix*) Boot and shoe making
(*x*) Leather goods manufacture
(*xi*) Oil pressing (Ghani)
(*xii*) Wood working industries
(*xiii*) Coir industry
(*xiv*) Mat weaving
(*xv*) Gur making
(*xvi*) Bidi, Cigar, etc , making
(*xvii*) Salt industry
(*xviii*) Hand-made paper, board, etc
(*xix*) Horn industry
(*xx*) Carpentry
(*xxi*) Blacksmithy industry
(*xxii*) Milk, milk product, sweets, etc
(*xxiii*) Paddy husking and milling
(*xxiv*) Products from bamboo, cane, etc
(*xxv*) Medicine and drugs
(*xxvi*) Flour making
(*xxvii*) Pulses processing

29
The above, obviously, is not the complete list of items of commodities produced on small scale The traditional local craftsmanship often naturally characterises the products Handloom cotton industry is by far the most important one in the above list All the districts have some people employed in the industry but Forashdanga and Dhaniakhali (in Hooghly) and Santipur (in Nadia) are famous for handloom *dhutis* and *sarees* Murshidabad, Bishnupur (Bankura) and Birbhum have fame for producing quality silk products Midnapore, Nadia and Burdwan produce quality mats Kanchennagar (Burdwan) is famous for cutlery Salt is produced in south of Midnapore district

30
It is very difficult to describe specific areas having different industries On the whole, it may be said that, almost all parts of the State, though may not be famous even within the State, have some or other rural industries

31
Considering the overall position of such industries, it might be said that conditions are not bright The Census Report of 1951 (Part IA, page 541) summarised the position and noted "The Statistics indicate that the aggregate livelihood of the people has certainly not kept pace with the increase of population and is lagging far behind The gap is widening more in the rural than in urban areas, proving that a greater and greater proportion of the rural population is being compelled to fall back upon the land and dispute what nourishment and employment it provides "

32
In the same Report (page 352) it has been observed "The stage has already been reached when agriculture cannot entertain larger populations but must drive away some of the surplus But the population driven away to towns by agricultural overcrowding leads a pillar-to-post existence and aggravates sub-marginal living" And (page 359) "But the growth of industry in this State does not keep pace with the demand for employment and that agriculture is more and more getting to be a losing battle seem established "

33
However, lately attempts are being made to organise these industries in a better way and to provide with financial assistance and technical help for their development

34
Calcutta.—Calcutta is one of the biggest cities in India and acts as the nerve centre of north-eastern India It is one of four cities in India with more than one million population, the cities being Bombay (population 2,839,270), Calcutta (population 2,548,677) Madras (population 1,416,056) and Hyderabad (1,085,722) Five cities, Calcutta, Howrah (population 433,630) Tollygunge (population 149,817), Garden Reach (population 109,160), South Suburbs, i e , Behala (population 104,055), and 5 towns, Bally, Dum Dum, North Dum Dum, South Dum Dum and Baranagore that form a compact geographical unit, is known as Calcutta areas It has an area of 85 2 sq miles and population 3,573,152

35
Over and above this unit, with the inclusion of further industrial areas the Greater Calcutta is formed The region, known as Greater Calcutta, has an area of 160 sq miles and a population of 4,578,000 (i e , some 19 per cent of the total population of the State)

36
The railway terminals, airport and sea port of Calcutta play a vital role in the economy of India Actually, the entire trade of north-eastern India with foreign countries along with a major

bulk of inland trade passes in and out through Calcutta Tea, jute goods, hides and skin, rice, wheat, coal, iron, mica, manganese, oilseeds, tobacco, etc, constitute the major bulk of the export through Calcutta The river Hooghly acts as the life line of the city Centering round Calcutta, along the course of the river, has developed the industrial belt Out of the 112 jute mills of India, 101 are situated in West Bengal All of them cluster here on the banks of the Hooghly Apart from jute mills, potteries, tanneries, paper mills, cotton mills, factories of heavy chemicals, paints and varnishes, electrical and mechanical appliances, pharmaceutical products, glass, ceramics, casting, etc, and many other types of big and small industries are situated in the area Batanagar is noted as the site of the Bata Shoe Factory producing footwears on large scale In Hind Nagar, an automobile plant has been erected that now assembles Hindusthan cars

37

Kharagpur.— It is in Midnapore district, some 6 miles south of the district town of Midnapore It has an area of some 13 sq miles and population of 129,636 Kharagpur is an important railway junction and has a big railway workshop Near this city has been housed the Indian Institute of Technology

38

Asansol.— The town with its neighbouring localities of industrial significance has made Asansol area very important It actually constitutes of the second industrial zone of West Bengal The iron and steel factories in Kulti and Burnpur constitute the second biggest of its kind in India

39

Several other industries concerning aluminium, plywood, ceramics, firebrick, paper, cycle, etc, also have been established in this region

40

Chittaranjan and Rupnarayanpur.—These are places within Asansol area Chittaranjan is a newly-built town with the only locomotive factory of India while Rupnarayanpur has one cable factory

41

Khagra (Murshidabad), Bankura and Katwa (Burdwan) are well known for bronze and brass utensils The only working sugar mill of the State is located at Ramnagar (near Plassey in Nadia district) Burdwan is a big business centre Santiniketan (at Bolpur, Birbhum) is famous as the seat of the Viswavarati University

42

Darjeeling, Kalimpong, Kurseong.—These are hill stations on the Himalayas They, with their delightful and bracing climate and scenic beauty, attract visitors from various parts of the world Tea, orange, cardamom, vegetables, etc, grow well in these areas Kalimpong is situated on the India-Tibet route and as such has become an important market place of wool and wool products that come from Tibet

43

Siliguri.—The town is at the foot of the Himalayas It is a big railway junction and an important business centre There are some saw mills, rice mills and other factories This town is developing fast after partition Jalpaiguri, district town of Jalpaiguri district, is another business centre

44

Kalyani.—A new town (covering about 10,000 acres) under development near Kanchrapara (28 miles from Calcutta) Kanchrapara has a big railway workshop and some jute mills Kalyani is being planned to be equipped with modern amenities so that it can decrease pressure on Calcutta It is situated on the banks of the Hooghly Near this township is located the Haringhata Farm (3,075 acres) Within this farm is situated the milk colony of Calcutta. The Central Agricultural Research Institute of West Bengal and the State Agricultural College of West Bengal will also be stationed within the farm Besides these, some other institutions like the Field Station of Faculty of Agriculture, Calcutta University, the River Research Institute, the Ionosphere Laboratory, etc, are being located here It has been proposed to provide this township with some industries also A motor cycle factory will shortly produce motor cycles at Kalyani

45

In south Midnapore, places like Contai have salt industries

46

Durgapur.—Previously it was a village within forests It stands on the Damodar and at this place the Durgapur Barrage has been built up It is some 15 miles south-east of Raniganj and will be the site of another industrial area of West Bengal A thermal power station and a steel factory along with other industries will soon help in developing this area It is expected that Durgapur will be a big industrial area

47

General physical description.—Darjeeling (excluding a good portion of Siliguri subdivision) and northern fringe of Jalpaiguri district are situated on the Himalayas Starting from the plains, some 200-300 ft above sea level only, the mountain spurs rise up abruptly Jalpaiguri district ends and Bhutan appears before the foot hills can attain heights Darjeeling district extends further in the north Almost on the boundary line of the district stand Sandakpu and Phalut, each some 12,000 ft high Tanglu (10,074 ft) is another peak in the area These ranges rise higher and higher up, till the lofty ranges of the Kanchanjangha (28,146 ft) appear (some 50 miles from Darjeeling town) in the outskirt of West Bengal The winding ranges of the district present a great variety of climate and elevation The valleys, thousands of feet deep, exhibit the well-carved-out terraces green with tea plantation The ridges and the valleys are densely clothed with vegetation Considering as a whole, the district seems to be a mighty labyrinth of ridges and valleys

48

The beautiful mountain river Teesta roars along the gorges that separate the Kalimpong ranges from the ranges of Darjeeling-Kurseong The drifting fogs and clouds, the cold atmosphere, the grandeurous beauty of peaks and valleys separate out this portion of the State from the remaining portion The Darjeeling town, that has grown up under the shadow of the mighty Kanchanjangha, is known to be the queen of the hill stations of India From Tiger Hill, a peak some 8,515 ft high lying near Darjeeling, the Mount Everest can be seen as a snow-clad indifferent peak at a distance (some 106 miles away) Apart from Darjeeling, Kurseong and Kalimpong have great reputation as beautiful hill stations

49

But its beauty is not all that it has The terraced slopes are used for crop growing too The eastern and southern slopes, that receive the benefit of morning and midday sun, yield many crops that do not grow in hot humid plains of the State

50.

At the foot of the majestic Himalayas, along the districts of Darjeeling, Jalpaiguri and Cooch Behar, runs a belt of forest. The portion of the forest lying west of the Tista is known as the Terai and the portion lying east of the river is known as the Duars. The enchanting beauty of Duars, specially during winters, only goes to add extra charm to the beauty that the State enjoys out of the Himalayas. The ridges rising one above the other against the background of distant sombre snow-clad ranges attract the beauty lovers. But this area, cris-crossed with mountain rivers, provides with extremely favourable opportunities for growing quality tea. Apart from tea, some other crops are also grown here.

51.

Formerly, the forest was very dense, full of swamps and consequently was very unhealthy. Though forests are still preserved, a good portion has been cleared for cultivation and tea gardens. This forest belt is part of the great sub-Himalayan forest, known as the Terai, that stretches throughout Northern India along the foot of the Himalayas.

52.

Further down in south start the plains of North Bengal across Jalpaiguri and Cooch Behar.

53.

In the western portion of the Presidency Division appear the gradually descending table lands of Chotanagpur. As such, spurs project here and there along with the low laterite swelling ridges. In western Bankura, they appear more frequently and prominently. The rolling down continues towards the east. Undulating lands, with isolated peaks are found here and there till flat plains appear.

54.

In the extreme north-western portion of Midnapore district, several hills (not more than 1,000 ft in height) of irregular shapes appear as the table land of Chotanagpur rolls down. But, though not many hills are there in the district, the western portion has broken land surface. With the distant low ranges of Chotanagpur table land lining up on the horizon, thick dwarf Sal trees covering ridges with red soil make the western portion beautiful. Rolling down continues towards the east, undulating surface gives place to plain flat surface. The laterite base lies covered up by alluvial deposition. The western portion is high but the southern and eastern portions of the district are low. In many places it is swampy and with embankments many areas are being protected from being water-logged. In south, sand hills spread out along the coast of the Bay of Bengal. Starting from the Rasulpur river, these hill ranges start westward (some 6/7 miles off the coast) and run nearly up to the boundary of Orissa State.

55.

The south face of these ranges generally slopes down gradually into the coastal alluvial plains. But the north faces mostly look like walls (i.e., having almost erect face), at places, being even some 60 ft high. In north of these ranges also lie alluvial plains. These ranges have varying breadth. They are found even to be half-a-mile wide. Yet other such ranges are now being found to be rising up near the present coast.

56.

The outline map of Burdwan district somewhat resembles a hammer. Asansol subdivision is the handle and it lies between the rivers Ajoy and Damodar. The rolling down of table lands of Chotonagpur continues across the subdivision.

Rocky hillocks prop up here and there from the poor laterite soil surface. The undulating soil surface may not be very good for agriculture but rich deposits of coal, iron, clay, etc., are found at the lower strata of the soil. The area is not altogether barren, especially in places with alluvial depositions.

57.

The hammer head consists of Burdwan, Kalna and Katwa subdivisions. The area is alluvial and have wide plains intersected by rivers and khals (i.e., canals). Many low-lying areas often get water-logged and look swampy. The general slope is from south to north or north-east.

58.

The configuration of the district of Birbhum is somewhat triangular with the river Ajoy as its base and the hills of Santhal Parganas on the western horizon. In west, laterite ridges bulge out and in between them lie the valleys. Approaching eastward and south-eastward, the ridges become less prominent and gradually appear the Gangetic alluvial plains.

59.

Cultivation is practised in the terraces carved out on the valleys. The uplands used to be very dry before excavation of the canals of the Mayurakshi Project.

60.

District Hooghly is situated in the north-east of Midnapore and south-east of Bankura. The district of Howrah is contiguous to this district and lies just south of it. West portion of Hooghly (Arambagh Subdivision) resembles east of Bankura. The remaining portion of Hooghly district and the district of Howrah constitutes of Gangetic alluvial plain. 24-Parganas is mostly plain. The lower portion is still under development due to the active nature of the estuarine rivers and the Bay of Bengal. Nadia and Murshidabad are mostly flat plains. The general slope of these districts is southward.

61.

West Dinajpur and Malda also are mostly plains but have undulating surface in the Barind tract. Actually, there are no hills in these districts but they are strewn with humps (up to some 100 ft.) that give the topography a somewhat different look compared to that of plains of the southern districts. The slope, in general, is southward in these districts.

62.

The State, with her varying features, is a part of the great Bramhaputra-Gangetic delta formed between the Himalayas and the table lands of Chotanagpur. As such, the State is cris-crossed by rivers, big and small (Chapter III). Soils of different types have been formed in different parts of the State (Chapter IV). Mostly, soils are good for agriculture but very long exploitation without much (or any) replacement of the plant nutrients (the cultivators did not use adequate doses of manures and fertilizers), in most areas, has left the soil exhausted and stabilised at a comparatively low level of production.

63.

General condition of the State, like other parts of India, received little consideration of systematic wide-scale development during the alien rule. As such, with the independence, the State had to start almost from the bottom step of the ladder. As such, the general picture that has been drawn up in the following chapters do not contain very many bright aspects. Nevertheless, they have references to the prospects of the agriculture. It

has been felt and realised that betterment of the position is not a myth but lies within reach

64
Regarding the initial stage of the great stride, a quotation from Rabindranath goes to speak for itself

65
The poet wrote "The wheels of fate will some day compel the English to give up their Indian empire But what kind of India will they leave behind, what stark misery? When the stream of their two centuries administration runs dry at last, what a waste of mud and filth they will leave behind them!"

66
Though this book does not deal with economic aspect of agriculture, it may naturally lead one to ponder over it Here, in a few lines, the background is presented so that the issues like low yield rates of crops, misuse of lands, weak live-stock population, etc, may come out against appropriate perspective

67
Regarding general condition of the cultivators, it had been said "Innumerable people are thus born in debt, live in debt and die in debt passing on the burden to those who follow" The point gets further exposed from Mr M L Darling's remarks " prosperity is as much a cause of debt as insecurity of harvest" Under such poverty-stricken conditions, how far improvement could have come? The pressure of poverty was acute enough to bring poverty in almost all aspects of life

68
How slow but sure was the approach along the path of decline will be suggested from the following extract from a letter written by J Westland, Joint Magistrate of Nadia, to the Collector of Nadia in 1867 "Each Zemindar and under-tenant religiously pursues the policy of 'killing the goose which lays the golden eggs' and the result which is now beginning to be realized is the most natural thing in the world I am afraid a complete remedy will be found only in a complete change of the relations between Government, the Zemindars and the ryots, at the expense of the Zemindar and his position, which is very much more than the theory of the Indian land system gives him" But killing of the goose was neither stopped nor even controlled and utter poverty could slowly and steadily spread out a grim spell of morbidity

69
The following is the extract from a letter that a few years back, in 1884, H Williams (of Church Missionary Society, Bullabpur) wrote to the Assistant Collector of Meherpur (Nadia) regarding Nadia district But, it seems that this speaks for other districts also "If any one unacquainted with the true state of the case were to glance at the map, he would at once remark upon the excellence of the water system He would see the country intersected in every direction by rivers He would think that two of the requisites for making a country great and prosperous are to be found here, a fertile soil and easy communication for men and commodities from one place to another" If what should have been done had been done duly in preserving the wealth, this would have been true, but what was the state of things? Nearly after some 60 years, Rabindra Nath once again asked this question and could see that "waste of mud and filth" was in the store

70
S G Hart, Collector of Bankura, wrote in 1927 regarding Bankura 'Water? Water is everywhere in demand If only there were an adequate supply of water, the proportion of unculturable land would be very small Great good can be done by making the use of such water as is available' But apart from a few scattered small projects catering local benefits, no big projects were taken up and lands remained thirsty

71
It is true that the State can go a long way to develop itself and thereby go on changing the condition of her people But her resources are limited and her problems are multifaced In agricultural sector, attempts are being made to crush the vicious circle created by poverty and various limitations in progress for ushering in a new era The First Five-Year Plan (1951-1956) has stirred the nation and actually pushed her some steps ahead in many aspects of life Out of the prevailing grim darkness of centuries, it brought new hope and promise

72
The Second Five-Year Plan (1956-1961) period is to commence from 1956 It is coming with many hopes and dreams and some guarantee of progress, development and security In view of all these, the poor yield rates of crops, weak live-stock population, unsystematic land utilization, misuse of land potential, etc, could not possibly be any longer allowed to play havoc with the economy of the State And, as such, necessary steps are being taken to introduce changes for achieving betterment and thereby raise the standard of living of the population On the agro-economic landscape, a change has already been marked with the introduction of new land tenure system(7)

73
Some developmental works that have been completed or are nearing completion will have important effects on the agricultural conditions of the State

74
The Damodar was known as the river of sorrow With the showers, it gathered strength and often sub-merged wide areas Crops would be washed away or water logged, plots would be poorer with deposition of sand and houses would be spoilt During winter when water would be needed for irrigation, the river would be poor and feeble The river Barakar meets the river Damodar on the western boundary of West Bengal Before this, in Bihar, the rivers and their tributaries pass through hills, big and small Such terrain has helped considerably in constructing the dams A dam is built in suitable place across a river, mainly by joining the two hills standing on two banks with concrete walls It stops water from flowing down and as such an artificial lake is formed A river with good catchment area may give rise to a big lake Arrangements are made so that stored water can be released according to necessity Some water is allowed to flow past through the turbines and thereby electricity is generated All dams under D V C Project are being constructed in Bihar

Near at Durgapur (Asansol subdivision), a barrage has been built across the Damodar The water that drains out to the Damodar below the dams and water, released from the dams, flow

(7) A brief note on the land tenure system of the state is given at the end of this chapter (as an appendix)

down to the barrage (*) The barrage is a wall built across the river (2,271 ft long and 38 ft high) But this can very well resist the water from flowing down directly along the bed (existing) Some water from here will be allowed to flow along two canals excavated for the purpose These canals have branched out further and further into smaller channels (length will be some 1,552 miles) for bringing water to the fields and draining out water A navigable canal (85 miles long) will run from Durgapur to the Bhagirathi (near Magra, a place some 35 miles north of Calcutta) The main north canal will serve the purpose of this navigation route for barges and boats Its bed width will be 172 feet at Durgapur and 60 feet at Magra Minimum depth is proposed to be kept at 8 feet The main course of the Damodar will receive some water even after feeding the two canals and will drain out the water from the area below the barrage By controlling the sluice gates at Durgapur, rates of flow along the canals and main bed will be adjusted

76

Apart from the D V C another project is almost nearing completion This is being arranged by exploiting the river Mayurakshi and others Here also for availing the natural facilities, the dam has been built in Bihar at Messanjore

77

Further down, across the Mayurakshi, Tilpara barrage has been erected near Suri town (1,013 ft long) The barrage has a catchment area of 1,239 sq miles Canals coming out from Tilpara barrage are some 73 miles long Tilpara barrage creates a lake over some 5 sq miles

78

Besides the Tilpara barrage on the Mayurakshi, other barrages have been built across the rivers Bakreswar (length—300 ft catchment area—48 8 sq miles), Kopai (length - 205 ft, catchment area —82 sq miles), Dwarka (length—275 ft, catchment area—117 sq miles) and the Bramhani (length—485 ft, catchment area—259 sq miles) All this detailed net works of canal system are some 1,060 miles long

79

The main objects of these multipurpose projects are the following —

80

(1) Flood control, (2) provision for irrigation, when needed, (3) production of cheap electricity, (4) promotion of some navigation routes and (5) control of soil erosion Of course, all the canals cannot have the facilities of an all the year round navigation route but as has been stated, D V C will open up a very important navigation route Such projects go also to improve general drainage system of the commanded area

81.

The following description gives briefly an idea regarding the dams and power stations built under the two projects —

82

Mayurakshi Project.—Messanjore dam has a catchment area of 718 sq miles The 2,200 ft long (at road level) dam rises 155 ft above the deepest foundation and roughly some 133 ft above the river bed The reservoir may cover some 26 sq miles The dam has been completed and a power plant is being installed with a capacity of generating 4,000 k w The dam is situated in Bihar (Santhal Parganas) and has been named as Canada Dam.

83

D. V. C. Project.—(*a*) *Tilaiya*—The construction of the water storage dam has been completed The dam has been built across the Barakar river This 1,147 ft long concrete wall stands 99 ft above the river bed Reservoir covers above 26 sq miles The hydro-electric station has total capacity of generating 4,000 k w

84

(*b*) *Konar*—The dam has been completed It is built across the river Konar The dam measures 12,760 ft (ie 2 4 miles) in overall length The reservoir covers some 10 sq miles The concrete dam rises 160 ft above the river bed It will subsequently be able to generate some 40,000 k w of electricity

85

(*c*) *Maithon*—The dam is under construction across the river Barakar It will rise 162 ft above the river bed and its overall length will be 12,593 ft (i e 2 3 miles) The area of the reservoir will be some 41 sq miles The proposed hydro-electric station will generate 60,000 k w

86

(d) *Panchet*—The dam is under construction across the river Damodar It will rise 133 ft above the river bed and will be 16,868 ft (i.e, 3 2 miles) long The reservoir will cover some 35 sq miles It will be provided with a 40,000 k w hydro-electric power generating set up

87

(e) *Bokaro Thermal power station*—A few miles off the Konar dam, the station is situated on the banks of the Konar river Three turbo-generator sets have been installed and there is provision for setting up the 4th one The present capacity of power generation is 150,000 k w and with the 4th one its capacity will rise to 200,000 k w This plant will cover up the seasonal variation in power generated in the hydro-electric stations at the various dams

88

The above programme of the D V C project covers the first phase In the next phase it has been proposed to build the hydro-electric dams at Aiyar, Bokaro and Belpahari and a hydro-electric weir at Bermo

89

Apart from these nearly completed projects, some other river projects have drawn attention The problems, advantages and disadvantages, feasibility, requirement, etc, of such projects are being considered and plans prepared Due to existing problem of financial and material shortages, they may take some more time to be realised Some of these projects are mentioned below —

90

Kangsabati (or Cossye) project.—It will be within Bankura district across the Cossye river The dam has been proposed to be erected in Khatra Police Station (Bankura) The following features indicate the nature of the proposal The maximum height of the dam above foundation level—168 ft Area of the reservoir—29,900 acres (nearly

(*) To express the difference between a dam and a barrage in a popular way, often, the following analogy is referred to A dam is a bank and a barrage is the small cash box at home In bank, one deposits his main fund but takes out parts of it from time to time and keeps in his cash box to meet necessary expenditure Likewise, a dam provides with main reservoir and a barrage provides with a much smaller reservoir wherefrom canals take out water for irrigation Here, one more point need be mentioned A dam (or a barrage) cannot necessarily stop all floods Water, coming into a river from areas down the dam, can also make a river swollen enough to cause floods But still, as the dam can withhold a large volume of water of a river in its upper course, floods cannot be so damaging as they could have been if some water had not been withheld by the dam Actually, if rainfall is very heavy over an extensive area and the river bed fails to carry out the drained water in its bed, obviously, some area would be flooded by the overflowing river Thus, erection of a dam does not necessarily make a river incapable of causing floods.

46 sq miles) Benefited area—8 lakh acres during Kharif season and as it is proposed to supplement the supplies to the existing canal system of Midnapore, further 1 50 lakh acres will be benefited It will go to improve the supply of drinking water in the area also Midnapore and Bankura will constitute the benefited area

91

Jaldhaka Hydro-electric Scheme.—Coming down along the boundary of West Bengal (Darjeeling district) and Bhutan, the river Jaldhaka reaches the plains of Jalpaiguri district It has been proposed to *build six* low head (60 to 90 ft), hydro-electric stations capable of generating 77,000 k w in total (three plants of 10,000 k w of 15,000 k w and 1 or 2 plants of 17,300 k w) Discharge rates of the rivers are quite heavy and as has been stated the six stage projects will be helping to set up a grid system along with other projects of the area

92

Roydak River Scheme.—The river comes out of Bhutan hills to the plains of Jalpaiguri Near Bhutan-India border the river passes along a narrow gorge This site has been found suitable for construction of a high dam The structures are proposed to be built within India but the basin will lie in Bhutan The proposed dam will have a hydro-electric station capable of generating 75,000 k w

93

Jainti—Katulum River Scheme.—The Jainti and its tributary Katulum comes down to Jalpaiguri from the Buxa hills One dam is proposed to be built across the Jainti river at an altitude of 2,000 ft above sea level and one across the Katulum at an altitude of 1,650 ft above sea level The rivers come down quickly and water flows are not feeble even during summer The proposed hydro-electric stations will have a total capacity to generate 11,000 k w The development schemes in Darjeeling are proposed to increase the power supply of the area

94

The Ganga barrage project.—Government of West Bengal have been forced to attach special gravity to this project as this deals with the following points —

(*i*) It would improve upon the navigability of the river Hooghly and open up inland water-borne traffic routes It would keep the Bhagirathi navigable throughout the year by pushing back silt and improving the channel

(*ii*) It would help in improving the position of water supply of Calcutta by checking the increasing salinity of the Hooghly

(*iii*) It would rejuvinate the dying and dead rivers lying east of the Hooghly-Bhagirathi in Presidency Division (i e , districts Murshidabad Nadia and 24-Parganas) and help in improving health and economic conditions

(*iv*) It would help improving the fertility level of some low-lying areas in the above districts by floods-flushing It would flood-flush 320 sq miles (between the Bhagirathi and the Jalangi) and provide with irrigation facilities for 1 50 lakh acres

It would also help in building up lands above the tidal levels in the Sunderbans and provide with some better irrigation facilities

(*v*) It would provide with a bridge across the Ganges that would connect Murshidabad (i e , lower West Bengal) with Malda

95

The project will be taken up shortly as it has been included in the Second Five-Year Plan The proposed work involved in the project contain the following features, viz —

(*i*) Near Farakka, a some 7,812 ft long barrage will be built across the Ganges (between the districts of Murshidabad and Malda) It would provide with facilities for extending railway lines and roadways across the river and thus link Murshidabad with Malda

(*ii*) A 27 mile long canal starting from above the barrage will carry water from the Ganges across Murshidabad and will pour it on the bed of Bhagirathi near Jangipur At first stage it has been proposed to throw 20,000 cusecs of water into the Bhagirathi Of course, provisions will be there for higher rate of supply

(*iii*) A lock of size 250 ft ×55 ft will be fitted in for letting boats in and out of the canal A similar device will link up the Bhagirathi with the Ganges below the barrage This would have some silt excluding arrangements so that silt of the Ganges may not spoil the system envisaged

96

Sonarpur-Arapanch Scheme.—It has been acclaimed as the biggest drainage scheme of the East The deterioration of the Bidyadhari River gradually resulted up in having water logged low-lying areas along her banks Attempts were made to get rid of the extension of water stagnation by gravitational drainage But this failed and the present project to reclaim the low lying basin having an area of 57 sq miles was taken up Of course out of this 57 sq miles, 36 5 sq miles was actually under water This necessitated in installing 4 electric pumping sets (capacity 250 cusec each) and excavating and reconditioning 25 miles long canal system The power had to be transmitted from Majerhat (Behala) to the pump house (nearly 19 miles) Of course, the project at the first stage brought electricity in the area

97

The remaining work is under progress and is likely to be completed in 1956 This phase would serve 48 sq miles This project has reclaimed agricultural lands and removed sources of ill health When completed, it would benefit nearly 105 sq miles of 24-Parganas by draining out ill-drained and water-logged areas

98

Bagjola-Chuni-Jatragachi Scheme.—The scheme is nearing completion It would improve upon the drainage conditions of 17 sq miles of urban and 99 sq miles of rural area The benefited area lies in 24-Parganas It would serve areas under Bhangore, Haroa, Rajarhat, Dum-Dum, Baranagore, Khardah Police Stations

99

Scheme for Reclamation of Salt Lakes.—In the eastern and southern portions of Calcutta, a swampy area has developed over nearly 33 sq miles This area is now breeding ill health The scheme is for reclaiming this area and it has been proposed to be taken up in the 2nd Five Year-Plan When completed, it would bring 4 sq miles of area suitable for human settlement and 27 sq miles suitable for agriculture It proposes to improve and remodel the existing Tolly's Nullah and to excavate a lake (about 1 7 sq miles) for improving supply of drinking water in South Calcutta

100

Apart from these projects, many other projects, catering benefit to local areas, have been completed

or are being envisaged However, all such projects taken together are gradually helping the development of agriculture Along with such expanding scope of agricultural development, communication system (Chapter II), marketing facilities, etc , are being improved *pari passu* Regarding extension of areas receiving electricity, much progress has been made in the recent years North Calcutta Rural Electrification Scheme, South Calcutta Electrification Scheme, Raniganj Coal Field Electrification Scheme, Community Development Project Electrification Scheme, etc , are the schemes under which the progress is being achieved.

101
Considering as a whole, it comes out clearly that the State still depends greatly on her agriculture Agriculture, directly and indirectly, serves as the principal national industry The scope of intensive cultivation lies wide open and on this depends the future of agricultural economy With higher net income from each acre of land, the position of crop production can attain new status The causes of low productivity have been spotted out to a great extent Apart from the problems of irrigation, drainage, plant protection, weak and out-dated agricultural implements, etc , cultivators were not in the habit of using manures and fertilizers But application of manures and fertilizers is essential for increasing yield rates and retaining the wealth of soil The implements that are mostly used, agronomically speaking, have been found unsuitable for improved agricultural practices The remedies are now being sought for and the available ones are being popularized The net work of State Agricultural farms is being extended for producing quality seeds of improved varieties and demonstration of improved methods of agriculture (of course, these farms are used for conducting the agricultural field experiments also) Cultivator's plots are also being used as demonstration centres Plant Protection has become a regular feature in the sector of crop production In subsequent chapters, general discussions regarding different aspects of agricultural geography of the State have been taken up briefly

APPENDIX

A brief note on Land Tenure System in West Bengal

1
With proclamation issued by Lord Cornwalis on March 22, 1793, a new era started in the history of land revenue system of the State The permanent Settlement Regulation of 1793 declared that the zemindars, independent talukdars and other actual proprietors of land with or on behalf of whom a settlement had been or might thereafter be made were to consider the amount of assessment irrevocable and not liable to alteration

2
It was expected that with the end of a period of uncertainty in revenue administration, a sense of security would grow among the land-holders This feeling was expected to produce several improvements in the method of utilisation of land. As the land-holders were to enjoy the fruits of extra production from land they would conduct themselves with good faith and moderation towards their dependent talukdars and raiyats It was expected further that the zemindars would spend capital for the development of their estates The proprietors were also entitled to dispose of and transfer their lands to whomsoever they thought proper by sale, gift or otherwise

3.
The immediate results of the permanent settlement were not happy The assessment was made at nine-tenths of the rental assets of the estates. This was obviously very high The zemindars failed to meet the demand of land revenue and sales of estates became common occurrence for the recovery of arrear revenue Farmers and intermediate tenants could withhold their rents. Zemindars had no direct control over them and had to proceed through Court of justice for the recovery of rents from the tenants

4
The Government were in deep concern with the collection of revenue and as such the hands of the zemindars were strengthened By Regulation III of 1793, the zemindars were vested with wide and arbitrary power of distraint By Regulation XI of 1822, an auction-purchaser in revenue sale was given the right to annul all tenures or engagements of raiyats with the defaulter or predecessor subsequent to the settlement excepting leases for dwelling houses, gardens, tanks, water courses, etc Act XII of 1841 was still more stringent and it replaced the Act of 1822 Under this Act, the purchaser in revenue sale could acquire an estate free from all encumbrances imposed upon it after the time of settlement and could enhance the rent of all under-tenures and eject some of them

5
Such power of the zemindars, obviously, was misused in many cases and a great discontent grew up among the raiyats In view of this, the rent Act of 1859 was introduced Thereby raiyats were divided into different classes and their statutory rights were defined It conferred the right of occupancy on raiyats having continuous possession of land for a period of 12 years It provided further that except on special grounds rents of land which have remained fixed since permanent settlement or for 20 years were not to be increased

6
Due to the absence of village records, the raiyats had difficulty in establishing their periods of possession of land Moreover, the zemindars ejected the raiyats before the expiry of 12 years in order to retain their rights Such difficulties proved that the Act had many limitations and the Tenancy Act of 1885 came in

7
The Tenancy Act, 1885, laid down that raiyat who had been in possession of land for a period of 12 years either himself or through inheritance would be a settled raiyat of the village wth occupancy right The right was made a protected interest in case of revenue sale of the superior landlord's estate The raiyat could mortgage or sublet his land

8
Some additional rights of the raiyats were accepted with the Amending Acts of 1928 and 1938 By virtue of the Act of 1928, a raiyat could transfer his holding after paying a transfer fee of 20 per cent of the sale price The rights of under-raiyats were also protected considerably under this Act Full occupancy rights except right of transferability were given to under-raiyats who had already obtained some right of occupancy by custom or had the land for 12 years under possession or had been recognised by the landlord in a document as having a permanent and heritable right or had a homestead on the land

9
The Amending Act of 1938 exempted the raiyat from paying any transfer fee The right of pre-emption was taken away from the landlords and was given to co-sharer tenants Payment of abwabs or extra presents was declared illegal

10

In 1938, the Government of Bengal appointed a Land Revenue Commission under the Chairmanship of Sir Frances Floud The Report of the Commission studied the merits and demerits of the existing land tenure system and recommended the abolition of zemindary system It was pointed out that after acquiring superior interests in the land, the Government would be able to introduce land reforms It was felt further that without such reforms the position of agriculture cannot be made much better

11

The Government accepted the main recommendations of the Commission and introduced a Bill in 1947 But owing to the partition of Bengal, the Bill could not be enacted

12

On May 7, 1953, the West Bengal Estates Acquisition Bill 1953, was introduced in the State Assembly and was enacted with the assent of the President on February 12, 1954

13

Under the provisions of the Act, all rights in the estates including the rights in sub-soil and minerals, markets, ferries, forests, etc, and other *sairati* interest vested in the State free from all encumbrances other than the rights of raiyats and non-agricultural tenants on April 15, 1955 (1st of Baisakh, 1362 Bengali year)

14

An intermediary has been entitled to retain (a) homestead, (b) land comprised in or appertaining to building or structure, (c) non-agricultural lands in khas possession up to a limit of 15 acres, but not exceeding 20 acres including homestead land, (d) Agricultural land in khas possession up to 25 acres (e) tank fisheries, (f) land comprised in tea garden orchards or fisheries or used for livestock breeding, poultry farming or dairy and certain other classes of landed property

15

The relaxation of ceiling in case of Co-operative Society or company engaged in farming or business connected with farming has been granted for achieving better production by modern methods

16

If lands are not utilised for cultivation or for gainfull or productive purpose, the land retained by an intermediary in khas shall be liable to resumption on payment of some compensation The intermediaries in all the abovementioned cases (a to f) will hold lands directly under the State This Act provides also the payment of compensation for acquisition of interest of the intermediaries

17

The Act has introduced two important principles, viz, (i) all persons who hold land which they cultivate by bargadars or which they do not cultivate themselves or by servants or by labourers or who sub-let their holdings in part or in whole are to be deemed as intermediaries (ii) such persons shall be paid compensation for acquisition of their interest on the same scale as in case of other intermediaries They will, however, be allowed to retain possession over khas land not exceeding 33 acres in all With this Act in the background, West Bengal Land Reforms Act, 1956, was enacted Along with other points it provides that

(1) Raiyat shall be the owner of his holding and the holding shall be heritable and transferable But transfer of whole or part of a holding of a raiyat belonging to a scheduled tribe to a person not belonging to a scheduled tribe shall be void unless previously permitted in writing by the revenue officer

(2) No raiyat(9) shall be entitled to hold more than 25 acres of land excluding homestead except on certain specific grounds (Persons retaining land under provisions made in the West Bengal Estates Acquisition Act, 1953, shall not be guided by this provision)

(3) He may cultivate any part of his holding by bargadar(10) But no bargadar shall be entitled to cultivate more than 25 acres of land Every dispute between a bargadar and a land-holder shall be decided by such officer or authority as the Government may appoint

(4) A bargadar will receive 50 per cent of the produce in case where plough, cattle, manure and seeds are supplied by the landowner and 60 per cent in all other cases

(5) No order for ejection of a bargadar shall be executed except during the months of Chaitra and Baishakh of the Bengali year

(6) No person shall be entitled to terminate cultivation of his land by bargadar except in execution of an order of due authority on certain specific grounds

(7) The holding of a raiyat excluding his homestead is liable to be sold out after due enquiry and after giving raiyat an opportunity to show cause against the action proposed to be taken if—

(*a*) he, without reasonable cause, has used whole or part of any of his land for any purpose other than agriculture

(*b*) he has, without reasonable cause, ceased to keep whole or part of his land under personal cultivation for a period of three consecutive years

(*c*) he has let out whole or part of his holding

(8) The revenue rates per acre shall be determined in consideration of the nature and productivity of soil, average yield rate per acre of crops grown and average prices received thereof during 20 years The rate per acre of a land shall not exceed 20 per cent of the value of yield of paddy per acre for a paddy land and 10 per cent of the value of yield per acre of crops (other than paddy) for non-paddy growing lands The revenue rates for lands not used for growing any crop shall be determined in consideration of the market value of land but shall not exceed 2 per cent of the market value of such land

(9) A raiyat means a person who holds land for the purpose of agriculture

(10) Bargadar (share-cropper) means a person, who, under the system generally known as adhi barga or bhag, cultivates the land of another person on condition of delivering a share of the produce of such land to that person.

CHAPTER II

(Communication)

1

The communication system is essential for providing with facilities of movement of man, his ideas and his goods from place to place Economic development depends on the development of cheap, fast and efficient method of transportation It is not far from being a fact that the economic frame work and status of an area can be guessed from the communication system that the area has

2

Unless goods are readily sent to markets, production may get hampered, producers may suffer loss and market prices may fluctuate in unwanted ways This is specially true for agricultural commodities Perishable commodities must find ready markets in short time If bumper crop is grown in an area with poor communication system, the price goes down and as such overproduction indirectly invites hard time for growers In consequence, the urge to grow more cannot gain root in the heart of the growers Such an antipathy cannot but be dreadful in a State like West Bengal where the pressure on land is so acute

3

Cities and industrial areas do not grow food and other agricultural commodities, rural areas do not produce all industrial products But the uses of these commodities cannot be restricted within such limited jurisdictions The produces must flow out to the centres that are in need of them Without a cheap, efficient and elaborate transportation system, the production of the State as an unit cannot actually be well conceived and the idea of production remains a localised affair Say, areas A and B will be keen in growing as much as they can if they know that markets at C and D can be easily availed for selling the produces at a good market price But, if the markets C and D are not easily available or if the process of transaction is not profitable, A and B will naturally go slow If growers of A and B have to sell their commodities to X and Y, who are middle men and arrange for the transportation of commodities (which may not be an easy job), X and Y, having not much of competition in purchasing commodities from nearly cut off areas (A and B), will try to pay as low as they can to the growers This brings bad agro-economic reactions Under such conditions, the interference from the Government side becomes almost unavoidable but which always may not be healthy The problem may also be faced by the growers themselves by starting some sort of co-operative arrangements However, the problem lies there and lack of proper care and attention can enliven it within no time Struggle for growing more cannot be separated out from the issue of good marketing facilities Cultivators cannot grow more to add more miseries to their lot And it is obvious that marketing has its bearing on the available means of transportation

4

Better system of transportation helps also in maintaining prices of goods steady It goes a long way in reducing wastages due to overproduction, in other words, it helps in arranging for better utilization of commodities

Apart from these, there are other points too and they are nonetheless important Now-a-days, the question of social and political aspect of life also cannot be ignored Better communication system goes to improve upon housing, food, health, education and cultural aspect of life, i e it helps in having better standard of living It helps in promoting national unity by opening easier channels of mutual contact Cheap inland travelling facilities have many such obvious beneficial aspects

6

Stress on points like defence, etc , need not be raised in this book on agricultural geography After partition due to influx of huge number of displaced persons and growth of employment potentials, Calcutta has become an extremely congested city It must expand But such expansion demands cheap and efficient link with the city The fact is not true for Calcutta only but also for other towns Volume of production in industrial and agricultural sector is expanding and as such communication system also must expand A lag in development of communication system may bring detrimental effects on the sphere of production, as a whole

7

In the following paragraphs, a brief survey of the communication system of the State is given Calcutta may be considered as the gate way of Eastern India Port of Calcutta has almost whole of Eastern India as its hinterland In spite of the limitations of the port, it is one of the busiest ports in India and abroad There is no other port in the State Years back a port was planned to be erected near Canning (24-Parganas), but it was abandoned

8

Calcutta has a big airport also (Dum Dum airport) It is the busiest airport in India and is linked up with the international air routes (Bombay and Delhi are the two other international airports in India) Calcutta is connected with western parts of India by air routes Apart from this, towns like Balurghat (West Dinajpur), Siliguri (Bagdogra air field), Cooch Behar, Agartala (Tripura State), Gauhati (Assam), Imphal (Manipur State), etc , have regular air services to and from Calcutta Now-a-days not only mail and passengers use air services, goods also are sent on the route Actually, trucks carry goods to and from Dum Dum in a way that reminds one of the sight of approach of a railway terminal or a port Air service is gaining more popularity in India From August 1953, the regular routes are being controlled by the Government of India The organisation that runs the inland service is known as Indian Airlines Corporation The organisation that controls the international wing of Indian airways is known as Air India International

9

Of course, besides the planes under regular scheduled services, some other planes fly on non-scheduled routes with passengers and goods (mainly goods) Such services are mostly run by private concerns Due to lengthy and weak road links between Assam, Tripura, Manipur, etc , and other parts of India and between North Bengal and South Bengal, importance of air links between such areas and Calcutta has greatly increased

10

Railway system.—Calcutta has two big Railway stations of which, one is at Sealdah and the other is at Howrah Howrah station actually does not lie within Calcutta proper, it lies within Howrah district The cities of Calcutta and Howrah are connected by the Howrah bridge, built over the Hooghly

11
Actually, from the lines that reach within the main buildings of these terminal stations, the nature of the railway links that bigger Calcutta has with outside can never be understood Lines for carrying goods in and out, spread over like tentacles and reach many points at the dockyard, port, factories, etc , and so their existence cannot be realised from being within these stations.

12.
However, from Howrah mainly two routes start One goes east across Howrah district to the city of Kharagpur in Midnapore district (72 miles) From Kharagpur three lines branch out

1A —One moves eastward towards Bombay (across Jhargram subdivision) *via* Tatanagar and Nagpur.

1B —One moves southward towards Madras *via* Cuttack, Waltair and Bezwada

1C —One moves northward towards Gomoh *via* Adra (of Bihar) district

13
Midnapore, Bankura, Bishnupur, etc , lie on route (1C) and Jhargram lies on route (1A)

14
The other route from Howrah proceeds northward After some distance it leaves Howrah district and runs across Hooghly district Just before entering Hooghly, the line bifurcates out (IIa and IIb)

15
(IIa) —One, taking an arc-like route (for some distance running close to the Bhagirathi), reaches Burdwan. This is known as the main line Chandernagore, Chinsurah, Bandel, Mogra, Pandua, Memari, etc , lie on this route (IIa) From Bandel, branches out the Barharoa loop line (III).

16
(IIb) —The other one, taking a chord like route (with reference to the main line IIa), goes to meet the main line (IIa) near Saktigar (Burdwan district), and reaches Burdwan Dankuni, Janai Road, Kamarkundu, etc , lie on route (IIb)

17
Some 8 miles after Burdwan, the line bifurcates (IIc and IId) Route (IIc) moves north-west across Burdwan district and then out of West Bengal (towards the stations of North India) In Asansol subdivision, the line throws branches that spread out in mine and industrial areas of Bihar and western portion of West Bengal Galsi, Panagar, Oudal, Asansol, Kulti, Chittaranjan, Raniganj, Rupnarayanpur, etc , lie on the route (IIc).

18.
The other branch (IId), near from Burdwan, goes north across the districts of Burdwan and Birbhum Then it moves out to Bihar A direct branch from this line reaches Sakrigalighat, a station on the southern bank of the Ganges Distance of Sakrigalighat from Calcutta is 206 miles Guskara, Bolpur (Santiniketan), Ahammadpur, Sainthia, Rampurhat Nalhati and Murarai, etc , lie on the route (IId)

19
The river Ganges may be crossed from Sakrigalighat by the train-*cum*-steamer On the northern side, stands Maniharighat station wherefrom starts the metre gauge line that links Calcutta with the northern districts of West Bengal and Assam

20
From Katihar Junction, 25 miles north of Maniharighat, a line (IIe) branches off from the main line This 69 miles long Katihar-Singhabad branch line serves Malda district Malda court (57 miles) and old Malda (53 miles) lie on this route (IIe).

21.
Then 25 miles north of Katihar, from Barsoi Junction, a 38 miles long line (IIf) moves eastward within West Dinajpur and runs across Raiganj subdivision Raiganj is only some 13 miles off from Barsoi The line moves up to Radhikapur of Kaliganj police-station (28 miles from Barsoi) in West Dinajpur district

22
The main line from Maniharighat spreads out across Bihar for about another 74 miles and then enters within Siliguri subdivision (Darjeeling district) Covering some 151 miles from Maniharighat, the line reaches the Siliguri Junction From Siliguri, the main line branches out One branch (IIg) goes south to Haldibari in Cooch Behar district (38 miles) Haldibari stands close to the border of India and East Pakistan Jalpaiguri (25 miles), Belakoba, etc , lie on this route (IIg)

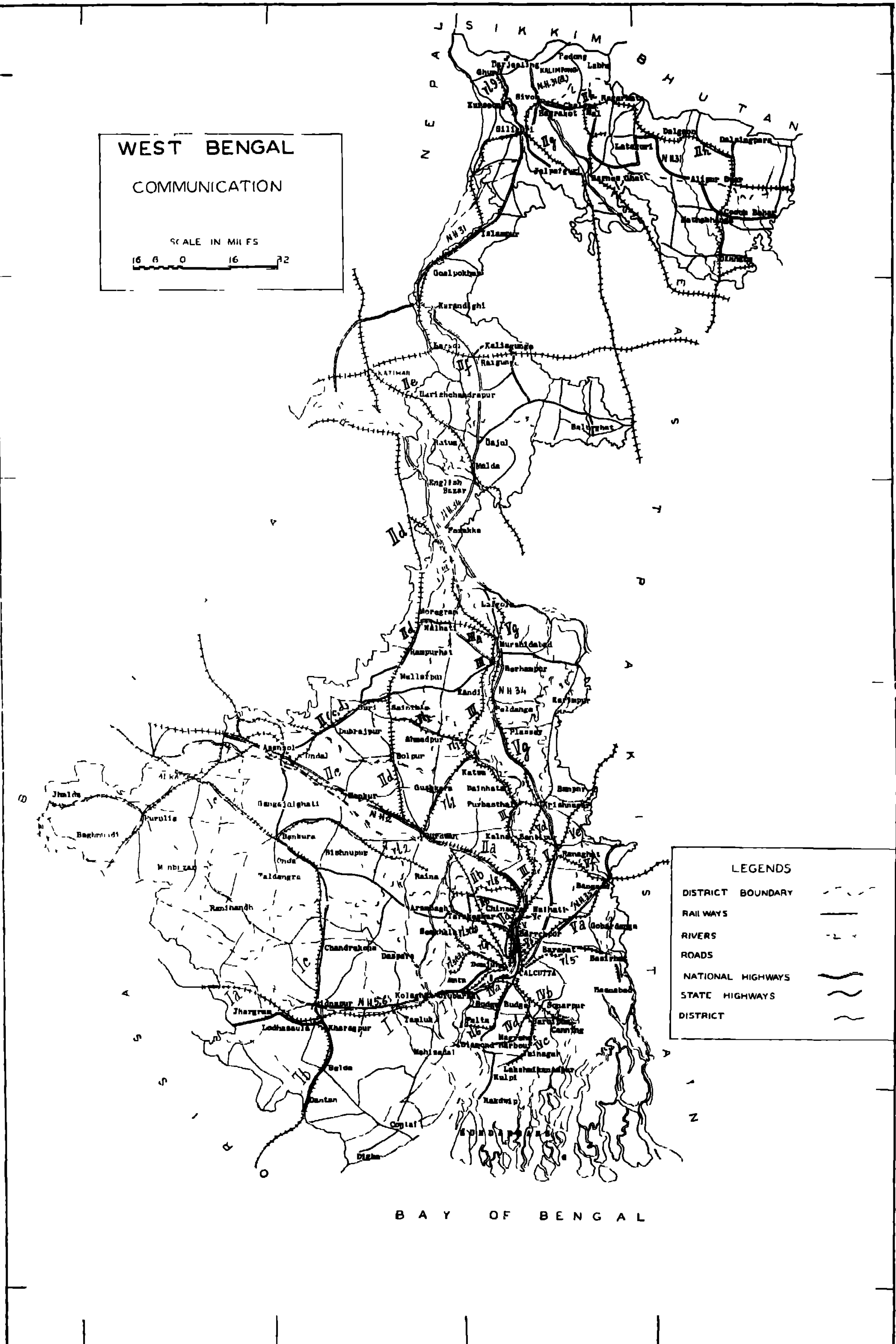
The other branch (IIh), from Siliguri, proceeds eastward This runs across eastern portion of the districts of Jalpaiguri and Cooch Behar It serves Jayanti area under the Sinchal hills also with branches Then it runs further eastward to Assam

23
Coming to the route No III, it may be said that the line runs north keeping close to the course of the Bhagirathi It serves eastern part of Burdwan district and part of Murshidabad district lying west of the Bhagirathi Leaving West Bengal near Tildanga (184 miles), it goes out to Bihar and meets the route (IId) at Barharoa Junction Tribeni, Balagar, Guptipara, Kalna, Nabadwip Dham, Purbasthali, Katwa, Chowrigacha (for Kandi town), Lalbagh Court Road, Azimganj, Jangipore Road, Nimtita, Dhulian-Ganges Tildanga (near Farakka), etc , stand on route (III)

24
Nalhati (145 miles from Calcutta), on route (IId), in Birbhum district and Azimganj (135 miles from Calcutta), on route (III), in Murshidabad district are connected by a 29-mile long linking line (IIIa) Ondal (109 miles from Calcutta), on route (IIc), in Burdwan district and Sainthia (111 miles from Calcutta), in Birbhum district, are also connected by a linking line II (c)(d) Pandaveswar, Suri, etc , lie on route (IIc)

From Sealdah also mainly two routes start One route (IV) spreads out southward within 24-Parganas From near Ballygunge (4 miles), it branches out into two lines One (IVA), moves westward and goes to Budge Budge (17 miles from Calcutta) The other branch runs southward up to Sonarpur (10 miles from Calcutta), on this branch stand Dhakuria, Kasba, Garia, etc Then this latter line branches out again into two lines One branch (IVB) goes to Canning (28 miles from Calcutta), and the other branch goes to Baruipur (16 miles from Calcutta) At Baruipur, the route again branches out into two lines One branch (IVc) goes to Lakshmikantapur (39 miles) Jaynagar, Mathurapur Road, etc , stand on route (IVc) The last one, (IVd), goes to Diamond Harbour (37 miles) Magrahat lies on route (IVd)

26
From Sealdah the other line, route (V), rolls out to the north Near Dum Dum Junction (some 7 miles), one line (Va) separates out and goes to Bongaon (48 miles) On this route (Va) lie Dum Dum Madhyamgram, Birati, Baraset, Habra, Gobardanga, etc Another line (Vb) moves westward *and crossing the Hooghly river along the* Willingdon Bridge (between Dakshineswar in 24-Parganas and Bali in Howrah district) meets


WEST BENGAL
COMMUNICATION
SCALE IN MILES
16 8 0 16 32
LEGENDS
DISTRICT BOUNDARY
RAILWAYS
RIVERS
ROADS
NATIONAL HIGHWAYS
STATE HIGHWAYS
DISTRICT
SIKKIM
BHUTAN
NEPAL
BAY OF BENGAL
Darjeeling
Siliguri
Jalpaiguri
Cooch Behar
Malda
Farakka
Murshidabad
Berhampore
Asansol
Durgapur
Burdwan
Bankura
Purulia
Midnapur
Kharagpur
Tamluk
Contai
Digha
CALCUTTA
Howrah
Barasat
Canning
Kakdwip

the route (IIb) near Bali. The main line proceeds north keeping close to the Bhagirathi. Near Naihati (24 miles), a line branches (Vc) out and runs over the Bhagirathi across a bridge (between Naihati in 24-Parganas and Hooghly Ghat in Hooghly). This meets the route (IIa) at Bandel. However, the main route runs northward and reaches Ranaghat (46 miles) From Ranaghat one branch (Vd) goes to Santipur and another one (Ve) goes to Banpur (Nadia district) at the Indo-Pak border (69 miles) Fulia lies on route (Vd). Continuation of the routes (Ve) and (Va) enter East Pakistan Ranaghat also is linked up with Bongaon by a line (Vf) The main route (Vg) moves northward across the districts of Nadia and Murshidabad keeping close to the course of the Bhagirathi and route III It stops at Lalgolaghat (Murshidabad district), which stands on the southern bank of the Ganges (146 miles) Krishnagore, Plassey, Beldanga, Berhampur, Lalbagh, Murshidabad, Jiaganj, Bhagabangola, etc , are situated on the route (Vg)

27

This, in short, is the description of main railway lines that run within and connect different parts of the State Extension of this system links up the State with other parts of India These lines have helped to make Calcutta what it is today They bring in and take out huge volume of different commodities to and from Calcutta, an important market and centre of distribution The efficient running of the Railway system is essential for keeping the port of Calcutta active and alive

28

The present load of traffic has been so enormous that some thorough changes are necessary for running the system efficiently In view of this, the Railways would shortly be run on electricity (Moreover, the quality coal that engines consume should be reserved for metallurgical uses With the installation of Hydro-electric power generating stations, electricity will be available at cheap rate)

29

The Railways are controlled by the Government of India Apart from the main lines, there are some short Light Railway lines They serve locally but nonetheless, they serve well They connect important centres with the neighbouring interior portions and help in transportation of both passengers and goods Some of them are under the control of non-governmental organisations

30

Usually, they cannot move with high speed for their narrow lines Now-a-days, the bus services and motor trucks, being efficient rivals, have reduced their importance to a great extent

31.

The adjoining tabular statement (Table A) shows description of the Light Railways of the State.

32

The distribution of the Railway lines shows that it leaves many areas unserved here and there. To cite an example, case of Arambagh may be mentioned Arambagh lies only some 25 miles west of Champadanga Railway station (in all some 57 miles only from Calcutta) but for want of a direct line and good roads, specially in rainy season, one has to go to Burdwan (some 60 miles) and then proceed some 36 miles further south to reach the place

33

A look at the map of West Bengal will show that the subdivisions of Contai (911 sq. miles), Ghatal (368 sq miles), Arambagh (412 sq. miles), Balurghat (586 sq miles), Tufanganj (224 sq. miles) and Mathabhanga (343 sq miles), have no railway lines within them The subdivisions of Kandi, Basirhat, Uluberia, Jhargram, Tamluk, Bankura (Sadar), Kalna, etc , have some railway lines across them but the condition, on the whole, is far from being satisfactory

34.

Of course, partition has very badly affected the communication system between the north and south districts of the State Grouping of railways has also produced some extra inconvenience. From Calcutta, distance of Siliguri was 337 miles across East Pakistan, now it is 366 miles; Jalpaiguri was 314 miles, now it is 390 miles and Cooch Behar was 332 miles, now it is 482 miles.

35

Previously, Darjeeling Mail used to take only some 12 hours and North Bengal Express some 14 hours to reach Siliguri from Calcutta (Sealdah Station) Now the through trains across East Pakistan have been suspended and the North Bengal Express takes some 20 hours to reach Siliguri Out of this extra 6 hours, some 3 hours are required for crossing the Ganges

36

The present difficulty of transportation of goods between the south and the north districts cannot be ignored A through railway line is urgently needed and is essential for better and efficient service.

37

The following table gives the mileage of railway lines in the State(*).

(i) Broad gauge (5′ 6″)		1,254 85 miles.
(ii) Metre gauge (3′ 3⅜″)		81·00 miles.
(iii) Narrow gauge (2′ 6″, 2′ 0″)		391·21 miles.
Total	..	1,727 06 miles (¹).

TABLE A.

Brief description of Light Railways of West Bengal

Name of the railway route (with code used in map)	Route and route length.	Area covered in the route.
(1) Burdwan-Katwa-Ahmadpur (narrow gauge) (rl-1)	(a) Burdwan town to Katwa town (33 miles) .	(a) Burdwan Sadar, Bhatar, Mangalkote and Katwa police-station, of Burdwan district.
	(b) Katwa town to Ahmadpur (33 miles) (Burdwan, Katwa and Ahmadpur are stations on main lines)	(b) Katwa police-station of Burdwan district, Ketugram, Nanur, Labpur and Sainthia police-stations of Birbhum district

(*)*Source* Statistical Abstract, West Bengal, 1951

In route mileage, double or treble lines have been counted only once.

(¹) Total railway mileage in India is some 34,009 miles out of which some 706 miles are run by non-Government bodies. The following table shows the nature of railways under Government (correct up to 1951)

(i) Broad gauge (5′ 6″)		..	.	15,694·53 miles
(ii) Metre gauge (3′ 3⅜″)	..	..	.	15,027·71 miles.
(iii) Narrow gauge (2′ 6″, 2′)	..	..	..	3,356 70 miles.
		Total	..	33,302 84 miles.

Name of the railway route (with code used in map).	Route and route length.	Area covered in the route.
(2) Bankura-Damodar River (narrow gauge) (rl-2).	Bankura to Rainagore of Burdwan district (60 miles) Bankura lie on the main line	Bankura Sadar, Barjora, Sonamukhi, Patrasair, and Indus police-stations of Bankura district Khandaghosh and Raina police-stations of Burdwan district. The area lies south of the Damodar river.
(3) Howrah-Amta-Champadanga (narrow gauge) (rl-3)	Howrah Maidan to Bargachia (15 miles) From Bargachia the line bifurcates—	Jogacha, Domjur, Jagatballavpur police-stations of Howrah district lie on the common route.
	(a) Line running in a south-western direction to Amta, a town on the banks of the Damodar (12 miles)	(a) Jagatballavpur and Amta police-stations of Howrah district
	(b) Line running in a north western direction to Champadanga (17 miles) in Tarakeswar police-station of Hooghly district	(b) Jagatballavpur police station of Howrah district, Jangipara and Tarakeswar police stations of Hooghly district
(3)(a) Howrah-Sheakhala (narrow gauge) (rl 4)	Starts from the same station in Howrah Maidan as (3) and runs with common line for some 3 miles and then it separates out to run up to Sheakhala of Chanditala police station in Hooghly district (19 miles) From Chanditala (11 miles) a short branch runs up to Janai, within the same police-station (2 miles)	Bali police station of Howrah district and Chanditala police station of Hooghly district
(4) Barasat-Basirhat (narrow gauge) (A few months back the system has been closed down for the time being)	From Shyambazar (north Calcutta) the line runs up to Beliaghata of Barasat police station in 24-Parganas (18 miles)	The railway line lies within 24-Parganas The common portion of the line runs along Dum Dum, Rajarhat and Barasat police-stations
	From Beliaghata the line bifurcates	
	(a) One goes west to Barasat town, lying on the main line (9 miles)	(a) It runs within Barasat police-station
	(b) One goes eastward, Hasnabad town with Hasnabad police-station of 24-Parganas	(b) It runs across Deganga, Basirhat and Hasnabad police-stations
(5) Kalighat-Falta (narrow gauge) (rl-6). (closed down from 1st April 1957)	From Majerhat (south-west Calcutta) it runs south parallel to Calcutta-Diamond Harbour Road, for some 18 miles Then it runs west to Falta on the eastern bank of the Hooghly (9 miles)	The railway line lies within 24 Parganas, Behala, Bishnupur and Falta police-stations
(6) Santipur-Nabadwip (rl-7)	Santipur and Krishnagar lie on main lines This line joins them up and runs eastward to Nabadwipghat Nabadwipghat stands on the eastern bank of the Bhagirathi, facing the Nabadwip proper, standing on the western bank of the river Length of the line is some 17 miles.	The railway line lies within Nadia, Santipur, Krishnagar Sadar and Nabadwip police-stations
(7) Bengal Provincial (rl-8) .	Tribeni, Magra and Tarakeswar lie on the main lines (all within Hooghly district) The line starts from Tribeni and goes to Magra (3 miles) From Magra twice across the main lines it goes to Dasghara, within Dhaniakhali police-station of Hooghly district (26 miles) At Dasghara the line branches off	The common portion of the line runs across Magra, Polba, Pandua and Dhaniakhali police-stations of Hooghly district
	(a) One branch runs south to Tarakeswar (9 miles)	(a) Dhaniakhali and Tarakeswar police-stations of Hooghly district
	(b) One branch runs northwest to Jamalpur of Burdwan district (14 miles)	(b) Dhaniakhali police station of Hooghly district and Jamalpur police station of Burdwan district
(8) Darjeeling-Himalayan (rl-9)	From Siliguri Junction, the line winds up its course to Darjeeling (51 miles)	It is the only line on the Himalayan Darjeeling district It passes across Kurseong and Darjeeling subdivisions

38

However, in view of these limitations, the State cannot but attach serious importance to other means of transportation and communication Roadways and Railways act as supplementary and complementary to each other

39

Roadways.—Roads (roughly over 23,000 miles) are many in number but all of them are not in good condition When the State was born, the road position was still worse. The roads that existed were overused Such overuse brought forth damages to many roads and spoilt some of them Moreover, roads were generally narrow and zig zag—these also are not favourable qualities of modern busy road Of the existing road system, only a fraction was metalled and was useful throughout the year. The metalled roads mainly connected some centres of importance and served cities and towns but the general condition was hopeless In rural areas, roads were mostly unmetalled and during rains, the clayey muds would make them almost useless In dry seasons, they would be uneven (with dried mud heaps of the rainy season) and dusty Even the road position in Calcutta and other towns were not very bright The State has many rivers and during rains they generally swell up But, lack of bridges presents another problem ([1]) Such bridges are now being constructed along with roadways.

40

Such roadways could not obviously be allowed to exist but there were (which still persist) limitations due to the shortages of funds, raw material and equipments So, the work of road construction and reconstruction had to be regulated with reference to these conditions and other development projects However, still, the position of roads is getting brighter gradually Old metalled roads are being widened and repaired. The unmetalled roads according to their priority are being metalled The work is progressing quite rapidly due to the simultaneous efforts of the Governments, the Municipalities and the Local Boards So, apart from roads under other bodies, shortly the Government will have 5,000 miles of

([1])To cite an example, road link between Calcutta and Kharagpur may be taken up Along the railway route, the distance is 72 miles only but along available road link it is nearly 237 miles Because, due to want of two main bridges, one has to go via Burdwan (73 miles) and Bankura (181 miles)

roadways under own management. But still the State has to go a long way to have a satisfactory road system extended throughout

41

The National Highways join different States State Highways run across districts and join important centres within the State The district roads link up the interior portions of the districts

42

Without using a lengthy note, it is not possible to describe the roadways Here only a brief discussion is being taken up

43

Six National Highways run across the State (nearly 700 miles) These are the followings —

N.H. 2.

(i) *Calcutta-Delhi National Highways* —Most part of the road is existing long since This road runs from Calcutta to Peshwar (in West Pakistan) and is widely known as the Grand Trunk Road The road was built by Sher Shah, the famous Pathan King (1540 to 1545 A D)

But, as up to Chinsurah, the road is very narrow, winding and remains heavily congested, a diversion route will be opened up N H 2, 5 and 6 starts along the existing Barrackpore Trunk Road Following the route of the existing Vivekananda (Willingdon) Bridge across the Hooghly, it reaches Joypurbeel (Hooghly district) N H 2 will run to Saptagram (beyond Chinsurah), on existing G T Road This route will be some 25 miles from the Bridge

N H. 5 & 6.

(ii) *Calcutta-Bombay and Calcutta-Madras National Highways* —This road is one in West Bengal, but in Bihar it branches out into two Highways Following four major bridges need be constructed before, in the portion lying within West Bengal, it is completed, viz , (a) over the Damodar near Bagnan (Howrah district), (b) over the Rupnarayan near Kolaghat to connect the districts of Howrah and Midnapore, (c) over the Cossye near Panskura (Midnapore district), and (d) over the Dulong (in Midnapore district, near the boundary of Bihar and West Bengal) From Joypurbeel (2¾ miles from the Bridge), the National Highways will run to the old Orissa Trunk Road (near Uluberia)

N.H. 35.

(iii) *Calcutta-Bongaon National Highways* — Jessore Road is also an old road, it runs between Calcutta and Jessore (East Pakistan) On this road lies the border town Bongaon (north-east of 24-Parganas) Dum Dum airport is situated by its side In Baraset, close near where Calcutta-Siliguri National Highway branches off, another branch (Taki Road) proceeds eastward to Basirhat and Hasnabad on the Indian border

N.H. 34.

(iv) *Calcutta-Siliguri National Highway.*— Branching off from the Calcutta-Bongaon National Highway near Baraset, linking up Haringhata, Fulia, Ranaghat, Krishnagore, Berhampore, etc , it runs up to Dhulian on the Ganges (north of Murshidabad district) At this place (Farakka), a roadway has been proposed to be built up over the Ganges across a Barrage But till the roadway across the river has been constructed, power ferry service will have to be used for crossing over to Khejurighat (Malda district) Then proceeding across the districts of Malda and West Dinajpur, it goes out to Bihar to meet the Bihar-Assam National Highways (at Dalkhola).

N.H. 31.

(v) *Bihar-Assam National Highways.*—As the name suggests, the road starts from and ends outside this State Yet, it is, the most important roadway to north West Bengal It connects Siliguri with Cooch Behar.

N.H. 31A.

(vi) *Siliguri-Gangtok National Highways.*—It starts near Sivak, on the foot hills of the Himalayas (Darjeeling district), from the Bihar-Assam National Highway Running across the bridge over the Sivokgola Pass, it winds up and up It runs up to the border of the Sikkim State and continuation of this road leads to Gangtok, Capital of Sikkim. This serves as the life line of Sikkim

44

This, obviously, does not complete the description of the roadways of the State Interiors of Malda and West Dinajpur, that have little railway connection, are mainly served by roads. The roads, though not all metalled and good, actually spread over the State quite like tentacles The adjoining table (Table B) shows a list of some roads serving different districts Obviously, this also does not complete the picture In fact, it covers only a fraction of the whole list The mileages quoted are approximate ones.

45

To a great extent the roadways have been improved in nature during the last few years and they are changing steadily It will not be far from reality, if one thinks that by another five or six years' time, a major progress will be achieved in the line and well-built, neat, all-weather roads will go to add a new tint of timely beauty to the landscape of many interior areas even.

46

Age-old bullock carts (some 621,400 in number) ply throughout the State. In big cities, small towns, industrial areas, rural areas—everywhere these carts are seen They are slow but cheap. Within their limited capacity, they carry quite a considerable volume of load In rural areas, they carry passengers too There are many bad roads still, specially in the interior areas Such roads, particularly during rainy seasons, hardly resemble roadways, they come out to be deep beds of puddled mud When other vehicles fail to avail such roads, carts can still ply on in their own way and fashion

47

A charge that is thrown against the carts is that they spoil good roads with their iron-rimmed wheels For their journey along good roads, they may have pneumatic tyres and tubes or some other types of soft rim arrangements for their wheels. But this renovation would not help them when cruising along roads with mud beds Moreover, tyres and tubes, etc , are costlier things and general folk are not accustomed to them For all these reasons, mostly carts are not seen with modern wheels

48

Motor trucks are many in number and on all motorable roads they ply to and fro carrying great bulk of load Throughout the State, they are playing a major role in the line of transportation Trucks do not carry loads for short distances only, many long hauls also are being undertaken by them Trucks are still mostly imported from foreign countries and as such are not cheap Maintenance and running costs are also not low Thus, usually, truck services, though fast and efficient, cannot be cheap

49.
Bus service (with some 2,300 vehicles has a very elaborate set up in the State. As has been stated earlier, train service has many limitations. Bus service tries to eliminate the difficulties of such limitations Actually, the network of routes of Bus service system connects almost all the important centres of the State Some routes are short but some are quite long ones (more than 100 miles).

50.
Bus journey is not always very comfortable, specially in out-of-town areas Sometimes the roads are bad, sometimes the buses are not well built, sometimes they are overcrowded—at times two or all three factors combine together But still there are many areas where Bus service is the only fast and regular means of transportation available to public

51
With improving roadways, the Bus services also are improving In this State, Buses are being run both by the Government and the private individuals and groups Gradually, the Government are taking over the proprietorship of the routes

52
Inland water transportation.—The particular advantage of this system lies in the fact that goods, even heavy and bulky, can be transported cheaply The capital and maintenance costs of boats are low Suitable courses often provide with short routes between places that lie quite separated along land routes It reduces the pressure of traffic on roads and railways Until roadways are well developed, the water routes will be serving locally many areas, specially during the rains

53
As its disadvantage comes up the issue of slower speed The weakness can somewhat be reduced by introducing power propelled arrangements But, this arrangement has two drawbacks, viz , (i) such arrangements increase both the capital and maintenance cost, (ii) high speeds need heavy fuel consumption and cost of fuel stands on the way of running power-driven boats with high speed at low cost

54
The exploitation of existing inland waterways as transportation routes is one story but development of such waterways is a different story If the Government have to recondition or excavate routes, the expense comes from the public The cost of such works are not usually low The low cost of transportation along such routes cannot always be considered separately from the cost paid by the Government for making and keeping such routes navigable However, rivers and canals often need be maintained in good condition from several considerations Such multipurpose river projects, obviously, give opportunity for maintenance and excavation of inland routes With the completion of the D V C project, an 85-mile long navigable canal would be available between Asansol area and Calcutta It is expected to carry some 20 lakh tons of cargo annually Completion of the Ganga Barrage Project is expected to reopen a lost inland water route—it would make the whole of the Hooghly (and the Bhagirathi) navigable and would link it up with the Ganges

55.
The river Piali was a river lost in mud and silt With the execution of the Sonarpur-Arapanch Scheme, the drained out water had to be forced out along the bed of this river. This has actually cleaned and revived the river . (Some such inland water routes are being opened up gradually.)

56.
Country boats (some 33,000 in number) usually ply along navigable routes carrying passengers and commodities.

57
No elaborate steamer service exists in the State. Lower portions of the State, where rivers are active and too many in number, are not well connected with direct through roads Sometimes, road routes are too long compared to the available water routes All these still make people use the water routes Boats and steamers are again essential for linking up north districts with the south districts of the State The steamer services between Rajmahal and Manikchak Ghat in Malda (some 2 miles), Khejuria in Malda and Dhuliangani in Murshidabad (some 7 miles) are important for this

58
Some of the other steamer services are listed below, viz —

(i) Kolaghat to Ranichak on the Rupnarayan (some 20 miles)
(ii) Calcutta to Bhangore (some 8 miles)
(iii) Basirhat to Hingalgaunge (some 22 miles)
(iv) Hasnabad to Mollakhali (some 60 miles)
(v) Hasnabad to Gosaba (some 60 miles)
(vi) Hasnabad to Sandeshkhali
(vii) Hasnabad to Rampur
(viii) Kalinagar to Haroa
(ix) Canning to Gosaba
(x) Kulti to Calcutta
(xi) Canning to Dulbarihat
(xii) Canning to Choto Mollakhali
(xiii) Canning to Kuribhanga

Road.	Markets and localities served	Distance. (Miles)
I. District Hooghly.		
(a) Howrah-Champadanga (east of the Damodar).	Chanditala, Soakhala, Haripal and Champadanga	50
(b) Baidyabati Siakhala (on Ia)	Maniramnpur, Siakhala Sooraphully on NH 2, Soramporo on NH 2	17
(c) Baidyabati-Tarakeshwar	Singoor, Nalikul, Haripal, Tarakeshwar	28
(d) Tarakeshwar (on Ic)-Champadanga (on Ia)	Ramnagar	7
(e) Chinsurah Dhaniakhali .	Rudrani and Dadpur	25
(f) Polba-Magra-Tribeni	Magra on NH 2	
(g) Hooghlyghat-Polba	Hooghlyghat and Bandel	
(h) Dhaniakhali (on Ic) Haripal	Bhandarhati .	12
(i) Dhaniakhali Kalna (Burdwan district)	Cheragram, Bainchi on NH 2	33
(j) Pandua-Kalna (Burdwan district)	Ilchoba and Inchura	17
(k) Champadanga (west of the Damodar)-Arambagh	Pursura .	18
(l) Arambagh (on Ii) Burdwan (south of the Damodar)	Raina	35
(m) Arambagh-Katulpur (Bankura district)	Katulpur	18
(n) Arambagh-Garbeta (Midnapore district).	Goghat ..	..
(o) Arambagh-Midnapore ..	Goghat and Garmandaran.	..

Road.	Markets and localities served.	Distance. (Miles.)
II. District Howrah.		
(a) Howrah-Amta	Bankra, Domjur, Jagatballavpur, Munsirhat, Maju and Jalalsi	30
(b) Uluberia-Deolti (part of NH 5 & 6)	Uluberia, Birshibpur, Bagnan and Kulgachi	.
(c) Uluberia-Sampur	Dhulasimla, Dhandali, Sampur	20
(d) Domjor-Bauria	Panchla, Domjor	16
(e) Domjor Baluhati (on Ia)	Baluhati ..	4
III. District Burdwan.		
(a) Burdwan-Kalna	Dhatrigram, Satgachia, Bohar and Hat gobindapur	36
(b) Burdwan-Katwa	Bhatar, Balgana, Sri khanda and Nigaon	45
(c) Kalna (on IIIa) Katwa	Dhatrigram, Purbasthali, Damhat and Samudragarh	40
(d) Kalna Manteswar	Satgachia, Dhatrigram, Majhorgram and Kusumgram	29
(e) Manteswar (on IIId)-Satgachia	Satgachia	10
(f) Mangalkot-Katwa	Nutanhat and Sreekhanda	26
(g) Katwa (on IIIb) Suri (Birbhum district)	Ahmedpur, Labpur and Kirnahar	45
(h) Raniganj Mejiaghat (Bankura district)	Raniganj	4
(i) Panagarh-Suri (Birbhum district)	Kanksa, Illambazar and Dubrajpur	52
(j) Burdwan Bolpur (Birbhum district)	Talit, Guskara, Bolpur and Vedia	35
(k) Burdwan Mangalkote		26
(l) Panagarh-Vishnupur (Bankura district)	Sonamukhi and Indus	38
(m) Burdwan-Patrasayor (Bankura district)	Khandaghosh and Patrasayer	28
(n) Memari Jamalpur	Masagram	12
(o) Ondal Suri (Birbhum district)	Ukhra, Pandavoswar, Dubrajpur and Kastagram	40
(p) Raniganj-Pandaveswar (on IIIn)	Searsolo and Tapsi	16
(q) Asansol-Chittaranjan	Sitarampur, Salanpur, Rupnarayanpur and Chittaranjan	15
(r) Budbudh (on NH2)-Ghuskara	Mankar, Dariapur and Guskara	16
IV. District Bankura.		
(a) Bankura-Majiaghat	Gangajalghati, Hikna and Mahara	28
(b) Gangjalghati-Saltora (to Purulia in Behar)	Ranipur	14
(c) Bankura-Ranibandh	Indpur, Khatra, Rani bandh and Supur	50
(d) Bankura-Simlapal	Ratanpur and Tal dangra	23
(e) Bankura M.dnapore (Midnapore district).	Onda, Vishnupur, Piardoba, Garbeta, Chandrakona Road and Salboni.	68
IV District Bankura—contd		
(f) Katulpur-Indus	Katulpur Indus	10
(g) Katulpur-Patrasayor	Katulpur and Patrasayer	14
(h) Sonamukhi-Patrasayoi	Patrasayer and Sonamukhi	8
(i) Bankura Durgapur	Beliatore, Barjora	25
(j) Beliatore-Sonamukhi	Brindabanpur and Hamirhati	14
(k) Simlapal-Jhargram (Midnapore district)	Raipur, Matgode, Fulkusma, Silda, Binpur and Dahijuri (Midnapore)	44
(l) Simlapal-Khatra (on IVc)	Simlapal and Khatra	16
(m) Mejia-Saltora (on IVb)-Manbhum	Saltora	14
(n) Bankura Purulia (in Bihar)	Chatna, Rangamati and Jhantipahari	24 (within State)
(o) Mejia-Chatna (on IVk)	Susunia, Chatna and Jhantipahari	25
V District Midnapore.		
(a) Midnapore Burdwan	Keshpur, Chandra kona and Khirpai	85
(b) Ghatal Chandrakona Road (on IVe)	Radhanagar, Khirpai, Chandrakona and Ghatal	30
(c) Midnapore Kokro (out to Singhbhm in Bihar)	Sardita, Dudhkundi, Lodhasuni and Kokro	32
(d) Chandrakona Road Raipur (Bankura district) (on IVh)	Goaltor	30
(e) Binpur (on IVh) Goaltor (on Vc)	Ramgarh	16
(f) Tamluk Contai (on IVf)	Nandapur, Mahisadal, Kalyanchak and Tamluk	45
(g) Tamluk-Panskura	Raghunathpur and Pratabpur	14
(h) Contai Road (or Bolda) (on Vo) Contai	Egra, Basudevpur	35
(i) Contai Digha	Patnahat, Sapnahat, Deoli and Ram nagar	22
(j) Contai (on IVf)-Kherjuri	Shyampur, Kherjuri and Basantia	16
(k) Kolaghat Midnapore	Panskura and Debra	45
(l) Egra (on IVf) Jaleswar (in Orissa)	Mohanpur	24
(m) Danton-Gopiballavpur	Chandabila Naya gram and Gopiballavpur	36
(n) Kharagpur-Keshiary	Hijli	16
(o) Kharagpur-Danton (out to Orissa)	Narayangarh, Beldah, Contai Road and Danton	
(p) Contai Road-Keshiary	Egra, Contai Road, Deuli	8
(q) Gopiballavpur Baripada (in Orissa)	Narisal, Tikayetpur and Nayabasan	
(r) Balichak-Pingla-Sabang	Pingla, Sabang	15
(s) Jhargram-Jambari Gidni	.	12
(t) Jhargram-Gopiballavpur	Lodhasuni and Mahapal	25

VI District Birbhum.

Road.	Markets and localities served	Distance. (Miles.)
(a) Suri-Sainthia-Kandi (Murshidabad district)	Suri, Sainthia, Dashpalsa and Kandi.	31
(b) Suri-Messanjore Dam-Dumka (in Bihar)	Md. Bazar and Ranishwar	44
(c) Suri-Bolpur (on IIIi)	Panrui, Purandarpur, Illambazar and Bolpur	23
(d) Suri-Ahmedpur	Purandarpur and Ahmedpur	13
(e) Suri Rajnagar-Jamtara (in Bihar)	Rajnagar and Tantipara	14
(f) Bolpur (on IIIi)-Murarai-Pakur (in Bihar)	Ahmedpur, Sainthia, Gadadharpur, Mallarpur, Rampurhat, Nalhati, Chatra and Murarai.	65
(g) Murarai (on VIf) Jangipur (Murshidabad)	Paikar and Jangipur	16
(h) Nalhati (on VIf)-Ajimganj (Murshidabad district)	Sagardighi, Barla, Ajimganj, Morgram, Lohapur, Takipur and Nalhati.	28
(i) Mallarpur (on VIf) Kandi (Murshidabad)	Mallarpur, Mayureswar, Dashpalsa and Kandi	35

VII District Murshidabad.

Road.	Markets and localities served	Distance. (Miles.)
(a) Mangalkote (on IIIf)-Jangipur (on VIg)	Barancha, Khargram, Morgram, Gankar and Raghunathganj	75
(b) Kandi-Borhampur (on NH-34)	Gokarna, Khagra and Purandarpur	14
(c) Berhampore (on VIIb)-Lalgolaghat	Lalbagh, Murshidabad, Jiaganj, Bhagabangola and Lalgola	32
(d) Berhampore Jalangi ..	Domkal, Sadhikhanerdera and Daulatabad	30
(e) Bhagabangola-Jalangi (on VIId)	Debipur, Nanisharpur and Haligram	38
(f) Jalangi-Karimpur (on VIII), Nadia district (on N H 34)		12
(g) Kandi-Saktipur	Bharatpur	14
(h) Chourigacha-Barancha	Chourigacha, Kandi, Barancha	12
(i) Ketugram (in Burdwan) Bharatpur	Shalar and Malihati	16
(j) Dobagram (on N H 34)-Kaliganj.	.	6

VIII District Nadia.

Road.	Markets and localities served	Distance. (Miles.)
(a) Krishnagore Nabadwip	Krishnagore, Maheshganj, Amghata, Nabadwipghat	10
(b) Krishnagore-Gopalnagar (on VIIId)	Hanskhali, Bogula, Ulashi and Gopalnagar	35
(c) Krishnagore-Majdia-Bhajanghat	Krishnaganj, Majdia and Bhajanghat.	18
(d) Krishnagore-Karimpore	Ghurni, Chopra, Tehatta, and Karimpore.	48
(e) Ranaghat-Bongaon (24-Parganas)	Majhergram and Gopalnagar	20
(f) Chakdah-Gopalnagar (on VIIIc)	Chakdaha, Bhatpara and Gopalnagar.	14
(g) Bethuadahari (on N H 34)-Tehatta.	Bethuadahari and Tehatta.	15
(h) Bethuadahari-Naksaipara	Bethuadahari and Naksaipara.	4

IX. District 24-Parganas.

Road.	Markets and localities served.	Distance. (Miles.)
(a) Barasat-Basirhat .	Beliaghata, Deganga, Berachampa and Arbelia.	25
(b) Basirhat-Itindaghat ..	Kholapota .	5
(c) Basirhat-Hasnabad	Taki	6
(d) Barasat-Barrackpur ..		9
(e) Calcutta-Kakdwip-Namkhana	Vishnupur, Amtala, Sibanipur, Sarisa, Kulpi, Kakdwip and Namkhana	67
(f) Sibanipur (on IXe)-Falta .	. . .	7
(g) Calcutta Kulpi (on IXe) ..	Sonarpur, Baruipur, Rampur, Sonarpur Arapanch Scheme area, Joynagar, Mathurapur, Lakshmikantapur and Kulpi	38
(h) Kholapota (on IXa)-Habra (on N H 35)	Badurıa	17
(i) Baruipur (on IXg)-Amtalahat (IXe)		10
(j) Calcutta Budge Budge-Rajibpur	Maheshtola, Batanagar, Budge Budge and Rajibpur	15
(k) Calcutta Kanchrapara-Haringhata.	Belgharia, Agarpara, Sodepur, Khardah, Titagar, Barrackpur, Palta (waterworks station for supply of filtered water to Calcutta), Ichhapur, Bhatpara, Naihati and Halisahar	36
(l) Kanchrapara-Kalyani ..	....	4

X. District Malda.

Road.	Markets and localities served.	Distance. (Miles.)
(a) Malda-Manikchak	Niyamatpur, Amrita, Melki and Manikchak	22
(b) Malda-Gour	Malda, Mahadipur, Sadullapur and Piasbari	8
(c) Manikchak-Ratua-Bhaluka-Maniharighat (in Bihar)	Mathurapur, Ratua, Bhaluka and Harishchanderpur.	48
(d) Bhaluka Harishchanderpur	.	.
(e) Ratua Kharta-Itahar (West Dinajpur district)	Kharba, Chanchal and Samsi	32
(f) Malda-Gazal (West Dinajpur district)	Pandua, Nimsarai, Gazal.	20
(g) Kaliachak-Malda	Jalalpur, Barasujapur, Jadupur	16
(h) Kaliachak-Niamatpur	Kaliachak, Methobari and Niamatpur.	12
(i) Malda-Habibpur-Bamangola-Gazal.	Muchia, Bulbulchand, Habibpur, Mirzapur, Bamangola and Gazal.	45
(j) Gazal Samsi (on Xe) ..	Gazal and Samsi ..	12

XI. District West Dinajpur.

Road.	Markets and localities served.	Distance. (Miles.)
(a) Raiganj-Hili .	Balurghat, Tapan, Gangarampur, Bansihari and Kusmandi.	86
(b) Raiganj-Dalkhola (on N. H. 31)	..	..
(c) Raiganj-Itahar	Raiganj, Gangarampur, Itahar and Durgapur.	15

Road.	Markets and localities served.	Distance. (Miles.)
XI. District West Dinajpur—*contd.*		
(d) Itahar-Kharba (Malda) ..	Itahar, Churaman and Kharba.	6
(e) Raiganj-Radhikapur .	Kaliaganj, Gangarampur	25
(f) Hemtabad-Kaliaganj Kushmandi	Kaliaganj and Kushmandi.	24
XII District Jalpaiguri.		
(a) Siliguri-Haldibari (Cooch Behar district)	Belakota, Phulbari, Berubari and Haldibari	42
(b) Jalpaiguri-Barnesghat (on east bank of the Tista)-Mainaguri	..	5
(c) Alipurduar-Cooch Behar	Alipurduar, Baneswar and Pundibari-hat	12
(d) Alipurduar Chuniajhora (on XIIj)	Mahakalguri, Kartick and Raira	20
(e) Alipurduar Buxa-Jayanti	Damanpur, Rajabhatkhawa, Buxa and Jayanti	20
(f) Kamakhyaguri-Kamargram	Kamakhyaguri, Chakchaka, Jaldapara and Kumargram.	17
(g) Malbazar-Dhupguri	Mal, Chalsa, Lataguri, Domohani, Maynaguri and Dhupguri.	26
(h) Dhupguri Gayerkata-Dalgaon-Falakata	Dalgaon, Birpara, Dindunia and Jateswarhat	26
(i) Gayerkata-Chamarchi	Binaguri, Banarhat, Red Bank and Chamarchi	14
(j) Gayerkata Nagrakata	Nathoa and Changmari	26
(k) Dhupguri-Nathoa	Dakmari and Nathoa	10
(l) Malbazar-Nagrakata	Mal, Chalsa, Sullapara-hat and Nagrakata	18
(m) Falakata Madarihat	Falakata, Kadambani, Paschimssal-kumar and Madarihat.	12
(n) Jainti Sankosh-Assam	Hatipota, Chinajhora and Kumargram	12
(o) Belakoba-Rajganj	Rajganj and Belakoba	6
(p) Nagrakata-Thaljhora .	Nagrakata-Thaljhora	7

Road.	Markets and localities served.	Distance. (Miles.)
XIII District Cooch Behar.		
(a) Cooch Behar-Dinhata .	Cooch Behar, Daranhat, Bhitaguri and Dinhata	29
(b) Dinhata-Tufanganj	Najirhat, Balarampur and Tufanganj-hat	30
(c) Cooch Behar-Tufanganj .	Cooch Behar, Chilakhana and Tufanganj	12
(d) Cooch Behar-Mathabhanga	Cooch Behar, Gayabari, Suktabari, Nishiganj and Mathabhanga	17
(e) Mathabhanga-Sitalkuchi-Dinhata.	Goswamirhat, Sital kuchi, Lalbazar	31
(f) Haldibari-Mokliganj	Haldibarihat .	9
(g) Dinhata-Gitaldaha	Dinhata, Okrabari, Falimari and Gitaldaha	9
(h) Tufanganj-Taknamari ..		14
XIV District Darjeeling.		
(a) Darjeeling Phalut	Jorbanglow, Sukiaphukri, Tanglu, Sandakhpu and Phalut	30
(b) Ghum-Mirik .	Ghum .	22
(c) Pulbazar-Marmidong (at Sikkim border)	Bijonbarihat	8
(d) Naxalbari (on N H 31)-Mirik	Panighata, Tingling, Pujuri and New-falodi	25
(e) Bagdogra-Panighata .	Bagdogra, Tribana and Panighata	12
(f) Matigara (on N H 31)-Kurseong	Simulbari, Phalodi, Pankhabari and Matigara	24
(g) Siliguri-Darjeeling	Sukna, Tindharia, Kurseong, Sonada and Jorbanglow	51
(h) Panighata-Pankhabari	Pankhabarihat	56
(i) Tista bridge (on N H 31A)-Kalimpong Pedong (goes out to Tibet)	Tistabazar, Algorabazar, Pedong and Kalimpong	26
(j) Algora bazar (on XIVi)-Malbazar (Jalpaiguri district on N H 31)	Algorabazar, Darlingfort, Garbathan and Fagu	35
(k) Tista bridge Gangtok (Sikkim)		27
(l) Jorbanglow-Tista bridge	Peshak, Lapcha and Rangli	18
(m) Siliguri-Fansidewa	Siliguri, Matigara and Fansidewa	16

CHAPTER III

(Rivers, canals, etc., and a note on fish production)

1

West Bengal is a land of many rivers With the extensive network of rivers and canals, scattered distribution of innumerable tanks and *beels* (i e lakes), low lying areas liable to water-logging, the land has acquired a splendid physical characteristic Actually speaking, the lower portion of the State is the eastern portion of the Ganges-Bramhaputra delta

2

A casual glance at the map will show the following features, viz —

(i) A number of rivers rise on the Himalayas But only the Ganges, the Tista and some of their tributaries rise from the glaciers on high altitudes The others rise mainly from the drainouts of the precipitation on the different sectors of the Himalayan ranges During dry seasons, the latter type of rivers are either very feeble or dry As there is no glacier within West Bengal, glacier-born rivers come from outside the State

(ii) The Ganges, with its lower distributaries and tributaries, forms the central river system of lower West Bengal

(iii) A number of rivers rise on the far extended table-land of Chotanagpur (Bihar State) These are all rainfed rivers In their upper reaches, they are like rivulets in dry season But down the stream, where several of them combine together (they get tidal benefits also, if not too far from the Bay), they look like rivers But during rainy days, they are wide, impressive and swift moving

(iv) A number of rivers rise within the State and after taking short journey, they meet either the Bhagirathi or one of its tributaries

(v) In Sundarban areas, there are a number of creeks, some of which are narrow but some are very wide On these areas, the Bay literally forges inland Some creeks look like mouths of rivers though actually no river may have participated in their formation At times, during tides, water move within through these creeks and spread over low areas In this sector, the rivers are very active Silt deposition from them is as remarkable as is their power of erosion.

In the alluvial plain, the rivers often change courses and a large number of small rivers rise from and flow into bigger rivers Rivers are often given different names in their courses Different rivers bear many common names All these make it difficult to describe the river system

(vi) It will be seen further that the Tista and a few other rivers flowing east of the Tista act as tributaries to the Bramhaputra The rivers of North Bengal, flowing west of the Tista, flow into the Ganges The rivers of Burdwan Division are tributaries to the Bhagirathi Only the Subarnarekha goes out of West Bengal to meet the Bay of Bengal Some rivers of eastern Nadia and 24-Parganas move southward to the Bay of Bengal—this system mainly originates from the distributaries of the Padma (the Ganges) This last group develops into a complex network of river system in lower 24-Parganas

3.

The following pages give a brief description of the river system of the State —

The river Ganges rises high up on the Himalayas Descending down to the plains of Northern India near Hardwar (U P), it takes a south-easterly course across the plains of Bihar and U P. On its way, it gradually swells up with the water from a number of tributaries. Skirting around the Rajmahal hills of Bihar, it touches West Bengal at the south western boundary of Malda district Further down, the river reaches the northern boundary of Murshidabad district, i e , the river actually enters within the State having Malda (Manikchalk police-station) at north and Murshidabad (Farakka police-station) at south After it has remained within the State to cover only some 12 miles, the boundary of Malda ends and territory of East Pakistan appears on her north bank But Murshidabad district, still for about another 60 miles, has this great river as its north boundary While flowing along the north of the Murshidabad district, the Ganges throws off southward the distributaries like the Bhagirathi (or the Hooghly), the Bhairab and the Jalangi through the district Here the Ganges adopts the name Padma and the main flow passes out into East Pakistan along the deep and wide bed of the Padma

4

But, it is believed that the main flow of the Ganges used to pass along the bed of the Bhagirathi even as late as 17th Century A D This shifting of the course of the main stream had a great influence on West Bengal

5

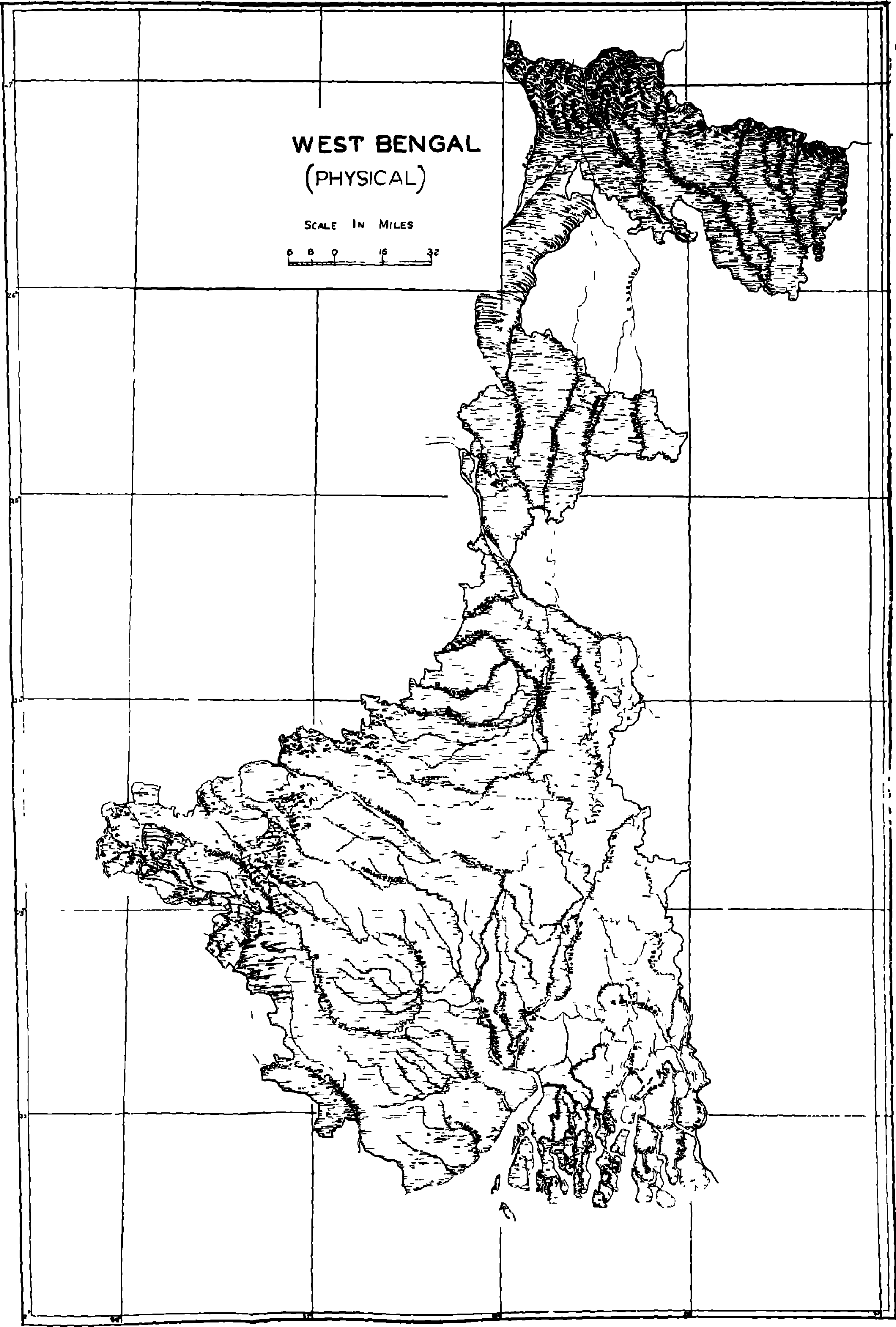
The Bhagirathi or the Hooghly is the main river of the State The river with its system of tributaries and distributaries serves both for the natural drainage and irrigation The Damodar, the Rupnarayan, the Ajoy, the Mayurakshi, the Kossye, etc , are the other main rivers of the Burdwan Division They rise either in the hills of Santhal Parganas or in the vast table land of Chotanagpur in the neighbouring State of Bihar and flow down to meet the Hooghly As such, they act as the tributaries of the Hooghly Mostly they have now highly raised beds When it rains heavily on their extended catchment areas, they swell up Along their shallow beds, water, under pressure, has, obviously, to rush through and, as such the currents are very strong Often the beds cannot hold all the rushing water and the banks are flooded These floods have great destructive power The Damodar had a very bad reputation for causing such floods After the shower is over, the rivers once again become shallow and feeble Such is the story of these rivers

6.

The Bhairab is an old river It has long been partly deserted and only sections of its past system can be traced Parts of the remnants of its old channel lie within East Pakistan It takes off from the Ganges in Lalbagh police-station (Murshidabad district), opposite to the place near where the Mahananda flows into the Ganges It is believed that before the Padma started carrying the main flow of the Ganges, it used to be the continuation of the Mahananda. Gradually, with growing current strength along the Padma, its importance was cut off The Mahananda started to pour her water into the Padma and the course of the Bhairab further down deteriorated

7

The Bhairab is almost a dead river now and hardly resembles the great sea going river that it was in the past During rainy seasons, for a few days, it receives water from the Padma, otherwise it remains forlorn.


WEST BENGAL
(PHYSICAL)
SCALE IN MILES
8 8 0 16 32

8.
At present, after a short journey across Murshidabad district, the Bhairab meets the Jalangi in the north of Nadia district and loses its identity.

9.
The Jalangi.—The place of branching off of the Jalangi from the Ganges is now not of importance for it has been silted up. However, geographically it starts its course in Jalangi police-station of Murshidabad district. Another river, known as the Hangordobah (also as the Mathabhanga), also rises close near to the mouth of the Jalangi on the Padma. The Jalangi flows along west of the Hangordobah (or the Mathabhanga) and the latter flows close to the boundary of East Pakistan and India. Then the Hangordobah goes out into East Pakistan to meet the main Mathabhanga, that branches off from the Padma in East Pakistan (a few miles off from the place of origin of the Hangordobah.) Gradually the Jalangi shifts eastward and flows along the border of the two countries for some distance. Then as Nadia appears at the south of Murshidabad district, it runs along the boundary of the districts of Nadia and Murshidabad. At this stage, the river Sialmari, another branch of the Padma, moving in between the rivers Jalangi and Bhairab meets the Jalangi. Shortly after this the Bhairab, cutting its course across Murshidabad district meets the Jalangi. This combined stream after traversing for some another 20 miles along a zig zag course along the boundary of Nadia and Murshidabad proceeds southward across the Nadia district. The district town Krishnagar stands on its banks. It ends its journey by finally flowing into the Hooghly near the old town of Nabadwip (Nadia district). In its lower stage of journey it is known as the Kharia also.

10.
The Jalangi also is said to have a glorious past, when, along her bed, used to pass a good flow from the Ganges. Now the portion, lying north of its meeting place with the Bhairab, lies dead for all purposes, except during rains. During rains it receives water from the Padma. The Sialmari is also heavily silted up. It gets some water from its mother river, the Padma, only during the rainy seasons. Previously, these rivers flooded the banks but gradually they lost their strength. In recent times they have again caused some floods. Moreover, erosion due to the Kharia is threatening the outskirts of the town of Krishnagar.

11.
The Mathabhanga is not an important river for this State as it flows mainly along East Pakistan. It flows a few miles across the district Nadia (east of the town Krishnagar). At this stage, the Mathabhanga bifurcates and the Churni river, the western branch, runs a few miles across the district in a south-western direction to meet the Bhagirathi. The town Ranaghat stands on the banks of the Churni. The other branch is known as the Ichamati. Actually, the Ichamati gets little supply of water from the Mathabhanga and thrives on wash-outs and tidal flows. At its upper course, it lies in a heavily silted up condition.

12.
The Damodar.—It is born at some 2,000 ft above sea level on the Palamau hills of Bihar. While rushing eastward, it touches Burdwan district, the river Barakar, coming along the western boundary of the district, joins with it. The Barakar has five tributaries and the Damodar has eight other tributaries than the Barakar—this suggests what an extensive catchment area actually the Damodar has.

13.
The enriched river Damodar proceeds in a south-eastern direction along the boundary of the districts Bankura and Burdwan. Rising near Susunia hills, a small river, known as the Sali, moves across some five thanas of Bankura district and drains out in the Damodar. The Bodai is another such small stream of north Bankura. Though not big in any way, it is locally important for irrigation facilities provided in this dry area. Then the river Damodar enters Burdwan district along a westward course. Flowing past south of Burdwan town, it moves south to enter into the Hooghly district. At this stage (near Jamalpur), two distributaries, the Kana and the Kana Damodar branch out from it. And some two miles before entering Hooghly district, the river again gets bifurcated into the Mundeswari (or the Kaki in Burdwan district) and the Damodar.

14.
While covering some 15 miles across the Hooghly district, it separates the Arambagh subdivision from the Sadar subdivision. Then continuing its southward journey (with a few eastward bents) across the heart of the Uluberia subdivision (Howrah district) it finally ends its 370 miles journey by joining with the Hooghly (a little north east of the extreme southern point of the Hooghly district).

15.
In the upper part of its course, while in Bihar, the Damodar is a swift river. But, as the slope of the bed loses steepness, from south of Burdwan district, the river becomes sluggish. Continuous silting up owing to its sluggish nature has made the river very poor (though it gets tidal benefits). In summer after feeding so many distributaries, it has very little water left to keep it flowing.

16.
In spite of this, in consideration of the devastating floods it has caused, right from Burdwan district, the eastern bank has been protected with *bunds*. The western bank has not such protective measures and as such has been flooded many times. Deposition of sand and silt on the bank during the floods has raised that side well. For having a raised bank on the west, the current now presses the eastern embankments. Breaches along the embankments have caused floods many a time. For these floods, the Damodar was known as the "river of sorrow". However, this river has now been tamed with the progress of the work under D.V.C. project.

17.
The Kana Damodar, originating in south of Burdwan district, cuts its course across the Sadar subdivision of Hooghly district and then enters Howrah district. The name Kana (i.e., blind) suggests that in the past it was active. Actually, along the bed of Kana Damodar, once, the major flow of the Damodar used to pass. But now it is choked up and for all practical purposes may be considered as extinct. However, its course meets the Rajpur Drainage Canal of Howrah district and thereby gets connected with the Hooghly river.

18.
The Mundeswari has its existence only for a few miles (some 45 miles). Its main function is to take some water of the Damodar from south of Burdwan and carry that across Arambagh subdivision to the Rupnarayan at the trijunction of Hooghly, Howrah and Midnapore districts. Thus, it is only a connecting river. But, within this short course, it distributes itself into a number of channels.

19.
The Behula is a small stream that starts its course in Burdwan district and flows eastward. Near the south-eastern corner of the district, it bifurcates The upper branch moves northward to meet the river Banka which flows into the Hooghly river. The lower branch moves southward and enters the Hooghly disrtict to join with the Kunti (the Kana) The Kana is an old forlorn channel of the Damodar within Hooghly district Its course is semicircular From its place of branching off from the Damodar, in its south-eastern course near up to Singur, it is known as the Kana From this place it takes a course in the north-eastern direction with the name Kunti and meets the Behula on its way to the Hooghly river The Kana is flushed from the Eden canal near Jamalpur, i e, its rising place from the Damodar.

20
The Saraswati is another lost river with a glorious past It is an abandoned channel of the Hooghly It branches out of the Hooghly near Tribeni (Hooghly distict) and trickles south across the district before entering Howrah district Following a curved course within Howrah district, it reaches the Hooghly near Sankrail The bed of the Saraswati has been silted up and only during the rains it looks like a stream worth mentioning All its glory is past It is connected with the Kana and thereby receives water supply from the Damodar also The Amodar, rising in Bishnupur subdivision of Bankura district, comes within Hooghly district Running across the Goghat police-station of Hooghly district for about 12 miles, it goes to Midnapore district to unite with the Sankari, a branch of the Darakeswar. The united flow then meets the Rupnarayan The Darakeswar is the most important river of Bankura district It originates within Manbhum district of Bihar Its flow divides the district Bankura into almost two halves. Its bed, specially in western part of the district, is quite deep and the water level is low. This creates a great difficulty in using its water for irrigation At places, within the district, it is as wide as 400 yards The Gandheswari rises near Saltora (Bankura district) and proceeds south-east to meet the Darakeswar near the town Bankura. A few other small streams like the Arkasha, the Birai, etc, carry water into the Darakeswar Then, passing along the boundary of the Burdwan and Hooghly districts, the Darakeswar enters Hooghly district and starts its southward journey. It cuts her bed across Goghat police-station (Hooghly district) to join with the Rupnarayan near Ghatal (Midnapore)

21
The Kana Darakeswar branches out from the Darakeswar (a few miles north-west of Arambagh town) and flows within Arambagh subdivision in a south-eastern direction to meet a branch of the Mundeswari. The combined flow meets again the Mundeswari within the subdivision The Ajoy has its origin in the hills of Chotanagpur of Bihar. Approaching West Bengal, it touches the Burdwan district and separates it from Santhal Parganas district of Bihar Further down, it takes a course in south-eastern direction to keep separated Burdwan and Birbhum districts for quite a distance The Hingla (from Bihar) is a short tributary to the Ajoy. Entering Birbhum district at extreme south-west corner and running across Khairasole police-station, it meets the Ajoy. Near Mangalkote (Burdwan district), the Ajoy takes a northward turn along the boundary of the same two districts. Then across Katwa subdivision, it traverses eastward to the Bhagirathi near the town Katwa (Burdwan district).

22.
The Kunur is a tributary to the Ajoy. Originating within Asansol subdivision, it flows eastward across the district (Burdwan) and finally meets the Ajoy near Mangalkote

23.
The Khari and the Banka also are streams of Burdwan district The Khari and Banka start flowing from near Bud-Bud (a place on the G T Road under Galsi police-station). The two streams, moving eastward, meet each other in Kalna subdivision and proceed to join with the Bhagirathi Except during rains, they remain very weak The Banka, near its origin, is connected with the Damodar and is used for feeding the Eden canal

24
The Brahmani is a stream of Katwa subdivision Rising south of Mangalkote, it first takes an eastward and then a southward course to meet the Khari.

25
The Silabati (or the Silai) rises out in Chotanagpur and rushes across Khatra and Indpur police-stations (Bankura) in a south-eastern direction The Joypanda, a stream of Indpur police-station, drains out in the Silabati as the latter passes out to the Midnapore district (Garbeta police-station) The course of the Silabati is very tortuous It is very deep at places, specially in Garbetta police-station, and as such causes difficulty in using its water for irrigation It runs along the north part of the district (Midnapore) and meets the Darakeswar near Ghatal. The combined flow of the Silai and the Darakeswar is known as the Rupnarayan

26
The Tamal and the Kulbai are two little streams from the western portion of Midnapore district Taking eastward courses across the upper portion of the district, they run to each other The combined flow is a tributary to the Silai and has the name Kulbai (Dashpur police-station)

27.
The Kangshabati or the Cossye is another river that rises out in Bihar and comes into Bankura district (across Ranibandh and Khatra police-stations) Proceeding along a south-easterly course across south-west part of the district, it enters Binpur police-station (Midnapore district) The Tarapheni rises in the north-western corner of Midnapore district (Binpur police-station) and moves eastward to the Bhairab Banki The Bhairab Banki rises in Ranibandh police-station of Bankura and passes along a south-eastern course below the Kangshabati The combined stream then flows into the Cossye.

28
The Cossye is an important river of Midnapore district The district town of Midnapore stands on her banks Along a tortuous arch-shaped course, it proceeds across the heart of the district Then it bifurcates near Keshpur The upper branch, known as Palarpai, flows (through Dashpur police-station) into the Rupnarayan assuming the names Mohankhali and Durbarchatikhali on its way The lower branch flows south-east and meets the Kelaghai river. This combined river known as the Haldi, continuing its south-eastern journey reaches the Hooghly (north of the Sagar Islands)

29
Though not navigable, the Cossye system plays an important role in the central sector of the district of Midnapore by providing water for irrigation But during rains, it, at times, breaks the embankments, that have been built up to stop the river from causing floods. People of Tamluk subdivision have suffered most from its floods.

30.

The Rupnarayan may be considered as the biggest river of Midnapore district. It acts as the eastern boundary of the district for about 45 miles As has been stated, it has quite a number of tributaries. In its upper course, it is not a big river but gradually expands on its downward journey South of Kolaghat, it is impressively wide (at places more than two miles) though not very deep It is full of *chars* (sand banks) and as such steamers have to ply cautiously. The Rupnarayan proper is tidal throughout its entire course The sides are protected with high embankments It reaches the Hooghly river some 5 miles south of the confluence of the Damodar and the Hooglhy.

31

The Kelaghai trickles out from Jhargram police-station of the district On its journey to the south-east, it receives the stream Bhogi (north of Polashpur police-station) Further down, the stream Kapaleswari cuts its course across Sabang police-station to meet the Kelaghai The Kelaghai pours out into the Kossye at the tri-junction of Moyna, Bhagabanpur and Mahisadal police-stations (of Midnapore district) Though not big, yet, for having quite an extended catchment area, the Kelaghai causes floods and is well-known for the erosion it carries on The Rasulpur is a river of Contai subdivision of the district (Midnapore) It is formed out of the three streams named the Bagda, the Sarpai and the Madhakhali. Passing south-eastward through the Khejuri police-station, it finds the Hooghly river (west of the Sagar Islands) The river is of economic importance It is navigable by country boats and along it moves to and fro a major bulk of necessary merchandise between Calcutta and Contai subdivision (via the Hooghly river) Moreover, Contai subdivision has been greatly saved from waterlogging due to the drainage work this river carries on

32

The Subarnarekha comes in from Bihar and goes out to Orissa before it flows into the Bay of Bengal. It traverses across the south-west of Midnapore district along an arc-like curved course It mainly flows through Jhargram subdivision It is said that traces of gold are found on its bed (and water too) and as such it has derived the name But due to prohibitive cost of recovery of gold, it has been left alone The river has a shallow and narrow water flow though the sandy bed is wide (at places it is as wide as half-a-mile or more)

33

The Mayurakshi (or the Mor) rises in the Santhal Parganas of Bihar It is the main river of Birbhum district In Birbhum, it has an easterly course. The town Sainthia stands on its bank and the town Suri is situated close to its course Covering some 35 miles across lower middle portion of Birbhum, the river enters into Barancha police-station (Kandi subdivision in Murshidabad district) throwing out branches

34.

The Bakreswar starts out from Rajnagar police-station (Birbhum district) of Sadar subdivision and flows eastward across the middle of the subdivision It has a number of tributaries The Sal (the Kopai) takes up an arc-like course along south of the Bakreswar. Santiniketan stands close to the Kopai. After a fairly long journey, finally near the town Labpur, these two rivers mingle together to form the Kula river Proceeding eastward, the Kula enters into Barancha police-station of Kandi subdivision

35

The Mayurakshi and the Kula rivers pass along zig zag (gradually converging to each other) courses and get inter-connected within Bharatpur police-station (of Kandi subdivision).

36.

Actually, these rivers do not flow along single courses; branching off is quite a remarkable feature. However, the flows with interlinks here and there move northward to the Dwarka for finally outpouring into the Bhagirathi. A branch of the Mayurakshi brings water to the Hijol *beel* of Murshidabad district. The Babla is another river of such complex nature.

37

From Santhal Parganas the Dwarka flows into West Bengal across Md. Bazar police-station (Birbhum) Receiving some tributaries (including the Bramhani), along a zig zag course it goes out to Khargram police-station (Kandi subdivision) across Rampurhat police-station Then along a tortuous path it reaches the Bhagirathi (some 4 miles south of Berhampore town) Actually speaking, most of the rivers of the Kandi subdivision (like the Mayurakshi, Kula, Kana, Bramhani, etc , from Birbhum district), act as the tributaries to the Dwarka.

38

The Bramhani, the Pagla, the Bansloi, etc., rise on the hilly areas in Santhal Parganas Flowing eastward across Rampurhat subdivision of Birbhum, they enter within Kandi subdivision as the tributaries of the Bhagirathi These are hill streams and as such are active mainly during the rains only The numerous back waters and side flows make it a very confusing system

39

The Bhagirathi, at present, is almost a dead river But it had a glorious past and it may also be said that on its future nature, the glory and prosperity of the State depends greatly. Its silted bed and weak water flow, even during rains, can hardly suggest the wide and deep flow that it was in the past.

40.

Branching off from the Ganges at the south of Malda district, it proceeds along a zig zag course across Murshidabad district While within Murshidabad district, several hill streams flow westward to it across Kandi subdivision. Many old historic towns like Murshidabad, Berhampore, etc , of this district stand on her banks.

41

The winding river continues its journey almost along the boundary of Nadia district (in the east) and Burdwan and Hooghly districts (in the west). In this portion, the river receives quite a number of tributaries Old historic towns like Nabadwip, Santipur, Katwa, Kalna, Tribeni, etc., stand on its banks.

42

A few centuries back, along the bed of Saraswati, the main stream used to flow. Saptagram (a small place on G T Road in Hooghly district), on the banks of the Saraswati, formed quite a famous area. Along the Saraswati trade ships used to ply freely It seems that by the end of the 16th Century, the course deteriorated to a great extent and by early part of the 17th Century, the bed started losing its importance.

43

From some such time, the old channel of the Bhagirathi started to be supplanted by the present channel Probably, this remarkable change took place gradually and over a long period. During the 17th and 18th Centuries, the shifting of the course demolished many historic places. situated on the banks and recked health and economy of the area.

44.
The lower course of the Bhagirathi is known as the Hooghly. Starting from the place of branching off of the Bhagirathi from the Ganges (at north of Murshidabad district), down to the place where the swelling Hooghly flows into the Bay of Bengal, the whole course is some 320 miles long.

45.
The Hooghly has an elaborate net-work of distributaries and tributaries. It has to carry the water coming down from about 9,000 sq miles of the eastern watershed of Chotanagpur plateau of Bihar State. In previous pages, the main tributaries of the river have been mentioned.

46.
Thus, as the Hooghly moves south, it gradually widens. Finally, along the eastern boundaries of the districts of Hooghly, Howrah and Midnapore and western boundary of 24-Parganas district, it flows into the Bay of Bengal As has been pointed out, opposite to the place known as Hooghly point (near Falta in 24-Parganas), the Damodar meets it across Howrah district and some 5 miles further south, comes in the Rupnarayan Further down, the Haldi and the Rasulpur of Midnapore district flow into the wide estuarine mouth of the river At the north of the Sagar Islands, the river splits up. The main flow (western one) enters the Bay with the name of the Hooghly and the other one flows along east of the islands to the Bay with the name Bartola

47.
The influence of the tides in it is somewhat appreciable as far up to Nadia, specially during dry months. At the north of the Howrah bridge, the river starts changing and it gradually gets weaker But, during rains, the river is quite impressive The difference between the lowest depth of water in dry season and the highest in the rains, is not less than 20 ft even near Calcutta.

48.
The Bidyadhari, Piali, Roymongal, Matla, Jamira, Kalindi, Ichamati, Saptamukhi, Kaikalmari, Harinbhanga, Goraba, etc., go to form the river system of 24-Parganas Of course, this is a part of the great Gangetic delta Actually speaking, the district, specially its lower portion, is criss-crossed by small and big rivers and innumerable canals

49.
The Bidyadhari serves as an outfall for the rain water and sewage of Calcutta. Its silting up has caused a serious concern. It starts from Baraset subdivision and proceeds south A small branch, carrying the refuses of Calcutta, moves to the Bidyadhari. Actually, the name Bidyadhari goes to denote a network of river system Of these, two are important The western one carries the drain water of Calcutta. The eastern one is more lively and healthy Sandeshkhali town stands on a loop formed by the eastern Bidyadhari system

50.
The western Bidyadhari receives a few other rivers and runs with the name, the Matla. The town Canning stands on the banks of this Matla river The branch of the Bidyadhari that flows into the Matla was completely chocked up and kept a vast area inundated with stagnant water The work under the Sonarpur Arapanch Drainage Scheme has recently opened it up once again and good portions of the inundated area have been reclaimed. The river has once again become active.

51.
The Matla is a very active river The Ichamati is also another active river Receiving some water from the Mathabhanga, the Ichamati somewhat begins its journey from within Nadia district. Covering some distance across the boundary of Nadia and East Pakistan, it enters within Bongaon subdivision of 24-Parganas. The town Bongaon stands on its bank. Proceeding across the subdivision, it reaches the border of 24-Parganas and East Pakistan Thus moving along the border, it enters Basirhat subdivision Keeping Basirhat town on its south bank and taking up a zig zag course, it traverses again towards the border Near Hasnabad town, the Dansha starts out from the Ichamati to link up with the eastern Bidyadhari The Ichamati moves southward towards the river Kalindi to participate in the formation of river net system It drains out into the Roymongal The changing bed of the Ichamati is now threatening the town of Basirhat and Taki.

52.
It is actually impossible to describe this river-net for its complex pattern of formation. Names change often and it makes the task all the more difficult However, in brief, the above is the river system of 24-Parganas The other rivers that have been mentioned may also be taken as estuarine creeks They are all active

53.
Up in the north, some rivers rise on the cradle of the Himalayas and flow down to the plain Of these, the Tista is the most important one. It is a river with very strong currents, specially before coming down to plains The enormous energy it carries has not yet been harnessed

54
Some 21,000 ft above the sea level, below the mighty Kanchanjangha, a glacier in Sikkim gives birth to the river Tista Draining Sikkim, it rushes southward to touch the boundary of Kalimpong subdivision of Darjeeling district Flowing for some distance along the north-western boundary of Kalimpong subdivision, it receives the Bara (Great) Rangit river near the northern junction of Kalimpong and Darjeeling subdivisions Then with the name Tista, the combined flow runs southward along valleys and gorges separating the Kalimpong ranges from the Darjeeling-Kurseong ranges.

55.
The Bara Rangit also originates in Sikkim and rushes southward to touch the Sikkim-West Bengal boundary Here the Rammam and the Chota (Little) Rangit flow into the Bara Rangit, which flows eastward along the northern boundary of West Bengal to meet the Tista. Of course, the Bara Rangit has some other tributaries The clear bluish Bara Rangit and the turbid Tista mingle together forming a majestic scenery. In dry season, water of the Tista is clear but somewhat sea-greenish and during rains it is whitish.

56
The Rilli and the Rongpo, coming across the Kalimpong ranges, the Rangpo, the Rayeng and the Sivok, coming across the Kurseong-Darjeeling ranges act as the tributaries to the Tista

57
The Tista rushes southward along a grand and beautiful landscape Overhanging mountains, clothed in dense forest, steep polished rockwalls curved out by the rushing flow, winding course, wide here, narrow there, with clear water glittering here, lustreless there, against a mighty background of rising tiers above tiers on both sides keep the Tista beautiful.

58.
Finally, along the Sivok Gola Pass, the roaring river comes down to the plains across the Siliguri subdivision.

59.
The precipitation on the well-stretched hills comes down to the valleys and as such many valleys act as the birth place of streams, big and small The Lodhena, the Lish, the Gish, etc., are such rivers. But actually speaking, though there are quite a number of hilly streams, unless some of them combine, they are not worthy of being called as rivers Except during rains, they are either dry or feeble Acting as great drains, they carry enormous volume of water that pours down on the Himalays

60.
The Tista receives many such drainways However, the Tista comes down to the plains with some half-a-mile width. The bed is full of rocks and boulders. After a short course across the forests of the Darjeeling district, it enters Jalpaiguri district along a south-easterly course. Entering Jalpaiguri nearly at its north-western corner, it cuts its course across the eastern portion of the Sadar subdivision (and also of the district) for about 40 miles. Then it moves out to Mekliganj subdivision (Cooch Behar) Its course within Cooch Behar district is very short, about 7 miles only Then the river goes out of West Bengal Proceeding across Rangpur district of East Pakistan for yet another 90 miles, finally it flows into the Bramhaputra

61
The Tista receives a number of hilly tributaries within Jalpaguri district The Lish, Gish, Dharla, Karla, etc , are among these. The bed of the Karla runs through the town of Jalpaiguri

62
The Mechi is another hilly river In its southward journey, along the western boundary of the Darjeeling district, it separates West Bengal from Nepal It reaches the plain across the Terai forest (along the western boundary of Siliguri subdivision of Darjeeling district and Nepal) Then leaving West Bengal, it enters Bihar State and meets the Mahananda in Purnea district (Bihar)

63.
The De-chu comes southward across the Bhutan Hills and meets the Ne-chu near the north-eastern corner of Kalimpong subdivision The combined river runs southward with the name Jaldhaka along the boundary of Darjeeling district and Bhutan It comes down to the plains in Jalpaiguri district and moves south-east to the river Torsa (or Dharla) at extreme south of Cooch Behar district It receives quite a number of tributaries like the Daina, Murti Khanabati (Dudua), Mujnai, Dharla, etc , during its fairly long course across the plains At lower stage, it assumes the name Sangimari within Cooch Behar district The river passes out to East Pakistan with the name Dharla as the tributary of the Bramhaputra

64.
The Torsa is another river from the Bhutan hills It runs directly southward across the plains of Jalpaiguri (Duars subdivision) and Cooch Behar districts It also receives some tributaries and at lower stage is known as the Dharla. The Dharla (i e , the Torsa) and the Singimari (i e , the Jaldhaka) meet each other near the border line and the combined flow goes out to East Pakistan to join with the Bramhaputra

65.
In this region, there are many rivers that carry the drained out water of the southern foot-hills of the Himalayas The Roydak, Kaljani, Jayanti, Sankosh, etc , are amongst such rivers. The Sankosh deserves a special mentioning It comes down from Bhutan hills and separates Jalpaiguri (Duars subdivision) from Goalpara district of Assam. After moving some 20 miles along eastern boundary of Jalpaiguri district, it gets within the north-eastern portion of Cooch Behar district (for some 10 miles). It receives a branch of the Roydak while within Cooch Behar. The combined flow, known as the Gangadhar, runs to the Bramhaputra across Goalpara district

66.
Rising in a valley, a few miles east of Kurseong, the Mahananda gets down to the plains of Siliguri subdivision. A number of hilly streams, like the Balason, combine with the Mahananda to make it a sizeable river The Balason is formed out of several rivers rising in the valleys, west of Kurseong. In plains, the Mahananda flows almost along the boundary of Darjeeling (Siliguri subdivision) and Jalpaiguri districts. When Jalpaiguri district ends and north tip of Rangpur district appears in the east of Siliguri subdivision, it separates West Bengal from East Pakistan. Then flowing for some distance across the boundary of Bihar and East Pakistan, it goes within Bihar It re-enters West Bengal along the northern boundary of Malda district (Harishchandrapur police-station) Then it meets the Nagar river and moves southward separating West Dinajpur from Malda for about 15 miles For some next 30 miles, it cuts its course through the heart of Malda district After this, flowing for some more distance along the border of Malda district and East Pakistan, it finally moves out to East Pakistan on its way to the confluence with the Padma The Mahananda has some tributaries that go to constitute the river system of Malda and West Dinajpur districts

67
A few rivers like the Saun, Nim, Talma originate at the foot of the Himalayas in north-western portion of Jalpaiguri district and gradually mingle together to form the Kartoa (in Rangpur district, East Pakistan) The combined flow proceeds southward assuming the name Atrai and bifurcates into two rivers, the Dhepa and the Kakra. The Kakra, the eastern branch, enters Kumarganj police-station (West Dinajpur) along a direct southward course. The district town Balurghat stands on its banks Covering some 25 miles across Sadar subdivision of West Dinajpur, it goes out to East Pakistan.

68
The Dhepa, taking a south-westerly course, enters West Dinajpur (Gangarampur police-station; some 16 miles west of the Atrai) The Dhepa is known as the Punarbhaba in West Bengal Staying in some 25 miles within West Dinajpur, it touches the north-eastern border of Malda Where West Dinajpur ends, almost touching the eastern boundary of Malda district, it runs along East Pakistan Further down, it meets the Mahananda within East Pakistan In West Dinajpur, the above two rivers run across Balurghat subdivision The Nagar, flowing along the boundary of Bihar (Purnea district) and East Pakistan, touches the north-western corner of West Dinajpur (Raiganj police-station) It proceeds southward along the western boundary of West Dinajpur (separating it from Bihar) to meet the Mahananda as it comes south-eastward along the northern boundary of Malda (separating it from Bihar) The combined flow then moves southward with the name Mahananda. The Kulik is another river of West Dinajpur coming from East Pakistan Taking a south-westerly course, it joins with the Nagar (across Raiganj police-station) The Gameri and the Chirmati are two other small rivers that flow in the south-west direction across West Dinajpur (Raiganj subdivision) before meeting the Nagar The Tangon is a tributary to the Mahananda. It rises in East Pakistan It flows almost southward when within West Dinajpur (Raiganj subdivision) but it takes up a south-westerly course in Malda district. Dividing the portion of Malda district,

lying east of the Mahananda, into almost two halves, it meets the Mahananda on the boundary of Malda and East Pakistan The Tangon has a few tributaries.

69

The Kalindi finds its origin in north of Bihar at the foot of the Himalayas Flowing across the plains of Purnea district, it enters Malda (Harishchandrapur police-station) Its course is very tortuous and within the small area, it travels quite a distance before pouring her water into the Mahananda, near the town old Malda (Its course is some 50 miles long within the district, though the distance between town old Malda and place of entrance of the Kalindi in Malda is some 30 miles only) The Barmasia, a stream of Harishchandrapur police-station is a distributary of the Mahananda The Pagla moves in the southern portion of district (mainly Kalichak police-station) and goes out to East Pakistan

70

Apart from the rivers, there are many canals, big and small They form an intricate network Many new canals are being excavated for promotion of greater drainage and irrigation facilities Such projects are divided into three categories, viz , the major, the minor and the small The major and minor irrigation schemes are being executed by the Irrigation Department whereas small irrigation projects, costing not more than Rs 10,000 each, are being executed by the Agriculture Department

71

The irrigation canals that are being constructed under the D V C and Mayurakshi Project will bring water to and from many areas lying miles off from the main rivers

72

Obviously, it is not possible to describe in brief the network of the canals in details The following lines only mention the name of some of the important canals in different districts —

Bankura—Subhankari dara, Champa, Birai, Amjhore, Salbandh, etc

Burdwan—Damodar Canal, Eden Canal, Kanakshya Canal, Dampal Canal, Kandar Canal, etc

Hooghly—Dankuni Canal, Amodar Canal, Terajoli Canal, etc

Howrah—Uluberia (or the Rone Nad), Kandua, Rajpor Drainage Channel, Howrah Drainage Channel, etc

Midnapore—Midnapore High Level Canal, Hijli Canal, Tidal Canal, Pratapkhali Canal, Putrangi Canal, Kowari Canal, etc

24-Parganas—Bhangar Canal, Katakhal, Diamond Harbour Crack, Magrahat-Joynagar Khal, Hatore Khal, Saugrampur Khal, Usthi Outfall Canal, Vishnupur Khal, Koirapur Khal, Noai Khal, Suti Khal, Krishnapur Khal, Abhaspur Khal, Chaltaberia Khal, Sibkali Khal, Kalagachi Khal, Satjali Khal, Hatgachi Khal, etc.

Birbhum—Bakreswar Canal, Kashinala, etc

Jalpaiguri—Narathali-Kamakshyaguri Irrigation Scheme, Dhemrijuri Scheme, Kodalijhore Scheme, Santhan Colony Irrigation Scheme, Purbaturi Scheme, Rangati Canal, etc

Darjeeling—Shastrigachia Canal, Jamaitola Canal, Champasara Canal, etc.

As has been stated the list given above is in no way a complete one.

73.

There are many *beels* in the State. The Salt Water Lake (Dhapa) lying between the Hooghly and the Bidyadhari, Bareati *beel*, Pakhimara *beel*, Baher *beel*, Chashagodha *beel*, Balli *beel*, Bijua *beel*, Padma *beel*, etc , of 24-Parganas, Moti *jheel*, Tekar *beel*, Bhandardaha *beel*, Chaltia *beel*, Hizal *beel*, Karul *beel*, Langalhata *beel*, Banki Jhola *beel*, Baloon *beel*, Sagardighi *beel*, etc , of Murshidabad, the *beel*, near Morarai of Birbhum, Bhatian *beel*, Royakhandighi, Sagandighi, etc , of Malda, are some of the big *beels* of the State

74.

There are about one lakh sizeable tanks in the State Of course, they are of different sizes(¹) All of them are not in good condition Lack of proper care has brought some of them to the verge of being silted up Nearly some 40,000 tanks are in derelict or almost in derelict condition.

75

Tanks play a great role as source of water for drinking, bathing and agricultural purposes Pisciculture in tanks also is a common practice The silt (*pank mati*) gathered from re-excavated tanks is thrown on the fields for raising up fertility level Under the Bengal Tanks Improvement Act, 1939, arrangements have been made for the re-excavation of the derelict irrigation tanks of the State Nearly 5,200 tanks have been improved therefrom This scheme has provided water for irrigation, bathing and other domestic uses, fish production, etc , specially, in areas, where no other major irrigation schemes are serving Apart from work under this Act, Government, lately, have started helping the public financially for excavating new tanks and re-excavating old ones so that better retting facilities of jute are available

76.

In spite of this existing extensive river and canal system, tanks and *beels*, the State would be much benefited if irrigation and drainage arrangements are extended further The rivers of the State, in general, suffer badly from silt deposition The enormous volume of silt that comes from widely extended areas and gets deposited along the beds of the sluggish rivers greatly affect the system of irrigation, drainage and routes of inland water communication

77

Even some 30-40 years back, the Bhagirathi had a better connection with the Ganges and as such, steamers, boats, etc , could ply between Calcutta and up towns like Benares, Allahabad, etc , but at present only some 10,000 to 12,000 tons ocean-going vessels can come up to Calcutta Thousand-maund inland boats can move up to Nabadwip Further up, the river is too shallow now-a-days to be used for such purposes Only the lower courses of other rivers like the Tista, the Mahananda, the Damodar, the Rupnarayan, etc , are navigable.

78

The port of Calcutta is the nerve centre of the State and it takes some Rs 40 lakhs per year for dredging the river bed to keep the river navigable As the tides are felt strongly up to Calcutta, the ocean-going vessels enter and leave the port mostly banking on these tides Here it may be casually mentioned that small boats need only 2 feet deep water, medium boats need some 10 feet deep water, big boats and steamers need

(¹) **According to Census 1951, the total number of tanks in the State was recorded as 6,61,000 Of course, this includes even small seasonal ponds.**

some 20 feet deep water and sea-going vessels need some 25 feet or more deep water to ply safely(*).

79.
Unfortunately, in the State many rivers are too shallow to be used as the inland water routes for even medium boats and steamers This weakness, in a way, has very badly affected the inland communication system, importance of which hardly needs any emphasis.

80.
Many rivers now cannot carry out the drainage work properly The areas that suffer from such lack of drainage system bring a problem before the State Bad drainage system brings ill health (specially malaria) When shallow river beds fail to carry the volume of rain water, certain areas on the banks of some of the rivers get flooded. Water deposited in the low-lying areas only aggravate the problem of drainage

81
There is another factor worth mentioning The rivers change their courses and whenever the main flows change, they affect, generally badly, the set up of their systems of the tributaries and the distributaries also Decay of many big and live rivers destroyed many flourished areas and have deprived them of their health conditions also

82.
Most of the rivers get supply of water received as the rainfall As such, they are healthy mainly during the rains, when actually the fields do not mostly need irrigation but rather need drainage facilities If such water could be availed during winter and summer days, the position of agriculture would have been very different from what it is today Construction of dams and barrages will, however, provide with such opportunities in some areas In conclusion, it may be said that the State depends much on the distribution and nature of its existing water surface but the control and maintenance of the system presents perpetually a gigantic problem

APPENDIX

Fish production in West Bengal

1
Fish constitutes one of the staple foods of the people of West Bengal Demand of fish is thus very high almost everywhere in the State According to a rough estimate, Calcutta markets alone can daily dispose of 6-7 thousand maunds of fish But actual consumption cannot be so high due to limited supplies and high market prices The issue of demand and supply of fish in Calcutta can go to explain the problems of fish production Roughly speaking, an acre of average of water area produces only some 10 maunds of fish per year Of course, better water areas or areas receiving better care can produce even 20-21 maunds of fish per year So some 700 acres of water area is necessary for supply of daily requirement of fish in Calcutta And for meeting annual demand of fish in Calcutta alone, some 2 56 lakh acres of water area need be available But this is not a simple requirement A very good portion of inland water resources of the State has been silted up or has been covered up with aquatic weeds Unless improved, such areas cannot be expected to produce fish, at least on a profitable basis But, this involves expenditure before pisciculture If the cost of development of a fishery is high, the project becomes economically unsound.

(*)Of course, all these estimates are rough and give only general ideas. Depth of water required by a boat or a ship for safe plying depends on the specific gravity of the water, shape, size and weight of the floating body.

2.
Water resources available for pisciculture may be divided into three categories, viz., (i) ponds, tanks, etc , (ii) *beels*, *jheels*, etc., and (iii) rivers, canals, estuaries, etc.

3.
As tanks are being improved gradually under different schemes, more of the lost tanks are coming back for use of pisciculture. Several administrative difficulties are on the way of improving *beels*, *jheels*, etc Rivers, canals, etc , cannot be used for pisciculture but, fortunately, fish is found to grow naturally in such water areas.

4
But as has been stated in this chapter, all rivers are not active throughout the year This obviously suggests the limitation of rivers as fish-producing areas But still, on the whole, rivers, canals, estuaries, etc , yield considerable quantity of fish.

5.
In view of the difficulties in fish production, several steps are being taken up by the Government This includes supply of seedlings, fish fry, fishing boats, yarn for nets and facilities regarding transportation

6.
As is obvious from the discussion taken up in this chapter, estuaries are in the south of the State Consequently, the whole estuarine fisheries are in Sundarban areas Due to several limitations, such areas cannot be exploited throughout the year. Only during some four months in winter, fishing is practised When weather conditions are bad, the water area is rough and unsuitable for fishing. Apart from this, there is problem of fish collection and its efficient and economic transportation to the market

7.
Limitations in fish production within the State made the issue of deep-sea fishing an important one Five trawlers have already been obtained for exploration of the prospect of different parts of the Bay of Bengal as fishing areas

8.
Coastal areas of Midnapore also produce marine fish In that area sharks also are available Oil manufactured from shark liver in the Government Fish Technological Centre, Contai, has earned reputation as nourishing food In this centre, fish meal and dry fish are also being produced

9.
Table A shows that some 19 92 lakh (i e , 1 99 million) acres of water area is available in the State Out of this, some 5 36 lakh acres were used for fishing in 1953-54 Area used for pisciculture is increasing In 1953-54, this covered some 3 25 lakh acres Production of fish is also increasing In 1953-54, some 13 01 thousand tons of fish were produced from captured fisheries and 19.80 thousand tons from area under pisciculture, i e , on the whole 32.81 thousand tons of fish were produced

10.
The following table shows the average monthly arrival of fish at Calcutta :—

Year.	Average arrival for month	Average arrival per day. (Maunds.)
1952	2,137 tons, i e , 58,170 maunds	1,940
1953	2,147 tons, i.e., 58,440 maunds	1,950
1954	2,968 tons, i.e., 80,790 maunds	2,690

TABLE A

Statistics regarding Fisheries and Fish Production in West Bengal.(*)

	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
I. *Water area available (in lakh acres)*—						
(*i*) Coastal fisheries	2·50	2·50	2·50	2·50		
(*ii*) Estuarine areas	4 30	4·30	4·30	4·30		
(*iii*) Large rivers .. .	3·00	3 00	3·00	3·00		
(*iv*) Other inland water areas . .	10 12	10·12	10·12	10 12		
Total .	19·92	19 92	19·92	19·92		
II. *Area used as capture fisheries (in lakh acres)*—						
(*i*) Coastal fisheries . ..	0 96	0 96	0 96	0 96		
(*ii*) Estuarine areas . .	1 00	1·00	1·20	1·30		
(*iii*) Large rivers	1·00	1·10	1 22	1·30		
(*iv*) Other inland water areas	1 50	1·60	1·71	1·80		
Total .	4 46	4 66	5 09	5 36		
III. *Area used for pisciculture (in lakh areas)*—						
(*i*) Estuarine areas	..	..	..	..		
(*ii*) Large rivers	..	..	..	..		
(*iii*) Other inland water areas	2·73	2·93	3·08	3·25		
IV. *Production from capture fisheries (in '000 tons)*—						
(*i*) Coastal	1·80	1·80	2 00	2·10		
(*ii*) Estuarine	2·00	2·10	2 30	2·40		
(*iii*) Large rivers	3·70	4·10	4·35	4·60		
(*iv*) Other inland water areas	2 75	2 95	3 22	3 35		
Total .	10 25	10·95	11 87	12·45		
Deep-sea fishing	0 11	0 30	0 40	0 56		
Total .	10 36	11 25	12 27	13 01		
V. *Production from area under pisciculture (in '000 tons)*—						
(*i*) Estuarine	..	..	..	..		
(*ii*) Large rivers .	..	..	..	..		
(*iii*) Other inland water areas .	15·67	17·60	19·00	19·80		

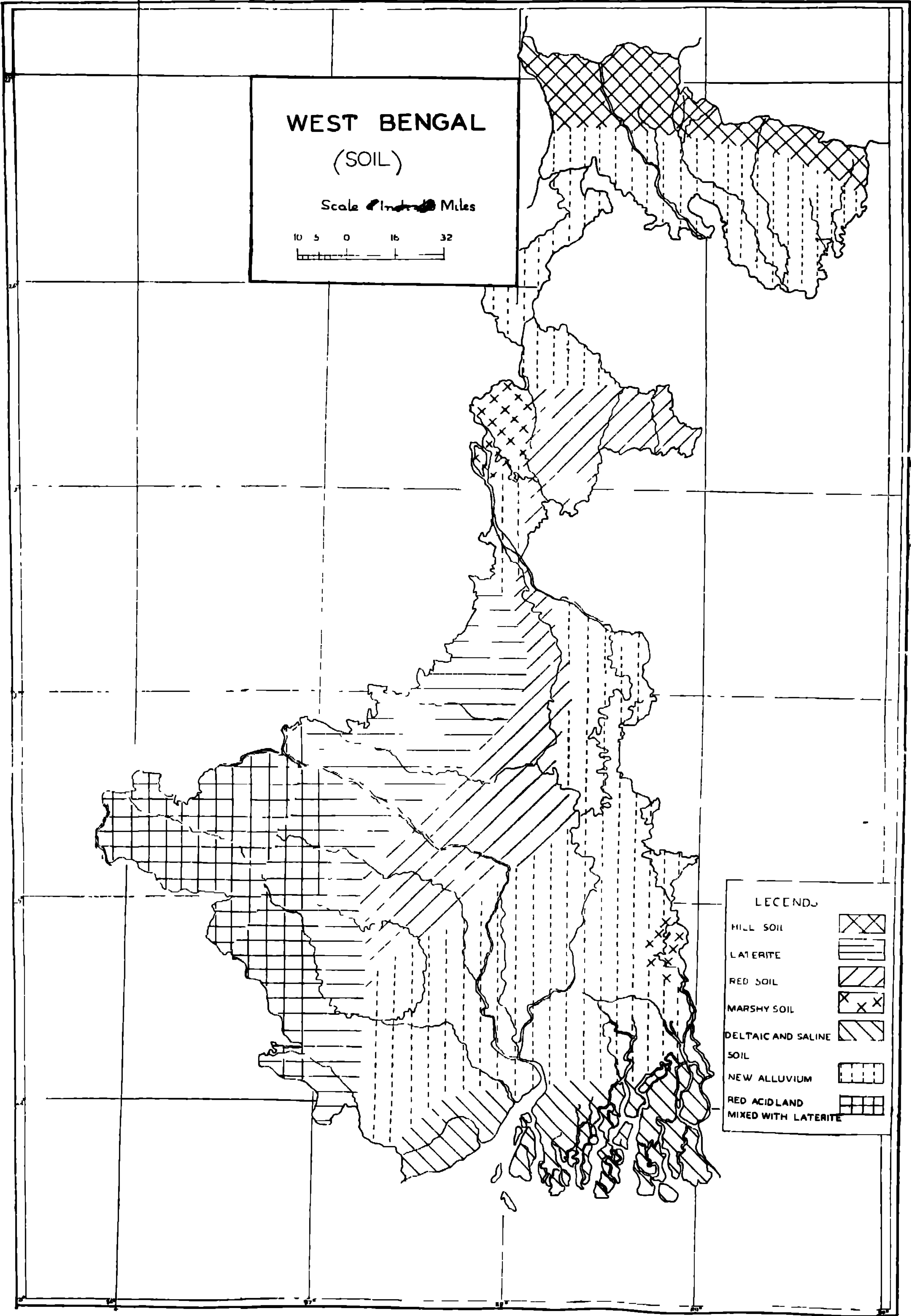
(*)*Source* : Directorate of Fisheries, West Bengal

11.

As the State can produce a fraction of its own requirement of fish, fish comes from neighbouring States in India and from East Pakistan

12

A catalogue of varieties and types of fish found in the State will be a quite lengthy one Mangur, Singhi, Pafta, Pangas, Tengra, Katla, Rahu, Chetal, etc , are found in all districts Masheer or Mahasol and Goonch are found in north districts only Besides these, Shrimp, Prawn, Lobster, Turtle, Crab, Oyster, etc , are also quite common in occurrence Sharks, Skates, etc , belong to the Bay of Bengal and estuaries, but at times they are found even near Calcutta Hilsa, Phasa, Corialli, etc , are found extensively in lower parts of the State.


WEST BENGAL
(SOIL)
Scale Miles
10 5 0 16 32
LEGENDS
HILL SOIL
LATERITE
RED SOIL
MARSHY SOIL
DELTAIC AND SALINE SOIL
NEW ALLUVIUM
RED ACID LAND MIXED WITH LATERITE

CHAPTER IV

(Soils)

1\. The southern portion of Darjeeling, eastern portion of Malda, West Dinajpur and the so-called "Rarh" tracts[1] of Burdwan, Birbhum, Bankura and Midnapore are in general old alluvium tracts Portions of these consist of red or laterite soil Generally speaking, they contain red clay or loam (due to presence of iron, the colour is reddish) and mixed concretions and are deficient in lime, organic matter and phosphate content They have not good water holding capacity This points out the existing natural poverty of soil, specially of the high lands, for agricultural work This tract needs liming, manuring and irrigation for good crop growing The soils of Howrah, lower 24-Parganas and eastern portion of Hooghly, Nadia and Murshidabad districts are new alluvium The soil of north-eastern 24-Parganas, western portions of Nadia and Murshidabad districts are old alluvium The saline soil tracts of Sundarbans and lower Midnapore are comparatively richer Such areas are well capable of growing certain salt resistant varieties of paddy

Soils of West Bengal

2

Soils of West Bengal have not yet been studied in details A Survey work has been taken up by the Directorate of Agriculture, West Bengal, for conducting such a study However, with the knowledge based on observation of several soil experts and reports of analysis of soils of different places, a picture can be drawn up regarding the soils of West Bengal Though not complete by any means, a brief and broad description of the soils of the State is given below —

Table A.

Local names of soils of West Bengal.

	Districts	Heavy clay	Clay.	Clay loam.	Loam	Sandy loam.	Sand.
1	24 Parganas	Entel, matial	Matial, metel, kala matal, rang matal, jhajra	Doash	Doansh	Bole doansh	Bole, belemati balia.
2	Nadia	Kadamati, entel	Metal, aetal, athal	Doash, mathal .	Ditto .	Ditto	Bolo, bela.
3	Murshidabad		Metal, mothal, mothel		Ditto	Mete bali, doma bali	Bele
4	Burdwan	Ethel, bagha ontel	Entel motel		Ditto	Ditto	Bole, belamati.
5	Birbhum	Bagha entel	Entel, metel	Entel doansh, Belemetal	Ditto	Ditto	Ditto
6	Bankura	Entelmati	Kadamati	Doansh mati, metal doansh	Ditto	Ditto ..	Ditto.
7	Midnapore	Entel	Metal	Doyas, hore	Doansh, doanshla	Bole doansh	Bole, balu, balimati.
8	Hooghly		Entel, metal	Entel doansh	Doansh	Ditto	Bele, belemati.
9	Jalpaiguri	Bhor kadu	Kada	Entel kada		Bala Doansh	Bala
10	Howrah	Entel	Entel, metal	Entel doansh	Doansh	Belo Doansh .	Belo, belemati
11	Darjeeling	Chitkhali, kalamati, chuntamato	Kalimati, kada, hoolo, garmati, chimte	Kalo mato, doansh, matiamati, heoloy mato, phoskey.		Balanty, balka, balmarimati, baley mati, kamera mato, balute	Balua, balka, balumati, cali, mati, rato mato-balna
12	Malda	Jhenjhar, rangamati	Metial, matal	Matal doansh	Doansh		Bole
13	West Dinajpur	Entel	Entel .	Doansh	Pali	Bele doansh, bele pali	Bele, chora balia
14	Cooch Behar	Athila kada .	Kada	Athila doansh		Doash	Bala

3

24-Parganas —Matial or clayey soil are of three types, viz , (i) Kala Matial, extremely fertile stiff blackish clay, (ii) Rang matal, i e , reddish clay, cracks when dry and sinks into holes when wet It can grow winter rice, jute and other bhadoi crops well, and (iii) Jhajra matal, a blackish soil, inferior to the above two types It can be cultivated even when dry

4

Mixture of clay and sand is known as Dorasa or Doansh mati It can grow bhadoi and rabi crops Such lands, when occur in and around the villages, are called dihi lands and are often highly manured for growing winter crops Sandy soil is known as belemati It can grow Aus (Autumn) rice and some winter crops Saline (i e , nona mati) areas are often wet and are not suitable for many crops But, when they are drier, cultivation is possible The lower part of the district show some saline areas Different types of soils are found in this area Matial is whitish loose and light clayey soil It can withhold moisture quite considerably and is capable of growing coarse varieties of paddy Dhap or chura means whitish high land It does not usually get inundated by the swelling rivers Agriculturally, the soil is very poor and ulu grass thrives well on it Dhal is low land that

[1] Ballal Sen, the well known king of Bengal (11th Centrury A. D), divided Bengal into four sectors, viz , (i) Rarh, i e , area lying west of the Bhagirathi, (ii) Barendra, i e , area lying between the Mahananda and the Karatoa, (iii) Bagri, i e , area lying south of the Padma and bounded by the Bhagirathi and the Bramhaputra and (iv) Banga, i e , the eastern Bengal These four names are still used though not with the same meaning as before.

often gets under water It is reddish in colour, cracks when dry and is full of holes during rains With adequate and timely rainfall, it can grow paddy But early heavy rainfall makes it unsuitable for cultivation

5.

24-Paganas falls within the great active delta of the Ganges system and is divided into two regions (i) well raised north area and (ii) low-lying Sundarban area In the region (i), the rivers are sluggish and are not capable of throwing silts due to the well-raised banks The region (ii) is still under formation Here many rivers and channels with wide estuaries move into the Bay of Bengal The innumerable islands present a swampy outlook.

6

Nadia—Roughly speaking, excepting portions under Karimpur police-station of Nadia Sadar subdivision and the tract known as Kalantar, the soil of Nadia district is light sandy loam It has low moisture retaining power and fertility The decay of the rivers like the Jalangi, Bhagirathi, etc , has stopped silt deposition

7.

The tract, known as Kalantar, is a low-lying area Starting from within Murshidabad district, it stretches into Nadia between the Bhagirathi and the Jalangi and extends further in the south-easterly direction covering nearly, some 15 miles long by 8 miles wide area The surface soil is stiff dark clay Under suitable weather conditions it can grow good Aman rice but often either water-logging makes it unsuitable for Rabi cultivation or want of adequate rainfall threatens the cultivation

8

Murshidabad—In the north-eastern portion of the district, the low-lying areas in the east of the Bhagirathi is known as "Bagri" It is subject to inundation The soil is alluvial and very fertile Aus, Jute and Rabi crops grow here well Down this tract, i e , in the south-eastern portion of the district lies the Kalantar tract Kalantar is capable of growing Aman rice only.

9

The portion, lying west of the Bhagirathi, is known as "Rarh" tract It has many *beels* and old river beds The soil is hard clay It is capable of growing good Aman rice, sugarcane etc Mulberry grows here well and as such sericulture has developed quite to a fame

10

Several types of soils are found in the district Mathal or methel is clayey soil It cracks when dry but is tenaciously muddy when wet Among clayey soils, hence mathal is black, bagh mathal is brown and ranga mathal is reddish in colour Ranga mathal is found in the Rarh tracts

11

Loamy soils are generally known as doansh Among doansh soils, pali is light brown, shampali is ash coloured and doma is dark red in colour They are all fertile and can produce good crops Sandy loam is generally known as metebali and when sand content is higher, it is called doma-bali

12

Burdwan—A good portion, mainly, the western portion of the district is rich with the washed out debris from the hills of Santhal Parganas, Singhbhum, Manbhum and the table land of Chotanagpur

13

Soil of the district is partly laterite, partly clay and partly red coloured coarse sand

14.

The clay soil is reddish at places due to presence of iron The alluvium area consists of old alluvium The high lands are poorer than the low tracts lying in between high lands The diara lands are formed by alluvial deposition from rivers and are very rich in fertility. The area lying south of the Damodar used to get enriched with silt deposition after floods. The Ajoy (and its tributaries) has a fertile basin in Katwa subdivision

15

The Asansol subdivision is somewhat different from the other subdivisions of the district. Here the soil is laterite Some agriculture is taken up in this subdivision, but as soil is usually very hard, quite heavy irrigation (or rainfall) is necessary for using the land The undulating surface has in many places exposed rocks The coal-field area of Raniganj holds a good reserve of coal The reserve of iron in this area is also noteworthy In places near Durgapur, coarse grained soft sandstones are found and are utilised for making bricks and tiles A good deposit of fire clay has also been found in the area

16

Birbhum—Entel is brownish clay For agricultural purposes, it is poor With manuring it can produce rice but is not suitable for Rabi cultivation Metal is clay soil It can retain moisture and is capable of producing Aman rice and winter crops like gram, wheat, etc

17

Bagha entel is heavy reddish clay soil with good water holding capacity It is very sticky when wet and extremely hard when dry After good manuring, it can produce paddy only

18

Pali mati is alluvial deposition Such soils are very rich and generally are used for growing wheat, potato, vegetables, etc With adequate irrigation such soils can produce Rabi crops in abundance

19

Bindi is friable, loose sandy soil with very little water holding capacity It can grow rice and is quite capable of growing Rabi crops with irrigation

20

Doansh is friable loose blackish soil It is very rich in fertility and can grow almost all crops Bele is friable loose whitish soil It is poor in fertility but can grow rice and to some extent some vegetables only It is not ordinarily suitable for Rabi cultivation

21

Kankar is friable loose reddish laterite soil (containing ferruginous concretions in it) It constitutes very poor type of soil It can grow crops like marua, bajra, maize, etc , and with irrigation facilities can grow some Rabi crops

22

Bastu is rich blackish soil with low water holding capacity But with proper manuring and irrigation, it can grow fine rice, wheat, tobacco, sugarcane, etc

23

Some poor quality of coal is found in the district The south-eastern portion of the district is alluvial with dark clay or clay and sand The western portion of the district is laterite In laterite area, ghutin (calcium carbonate) can be found At places, reddish brown gravel and laterite rocks are seen on the surface or just below the surface Some well exposed granite rocks are seen above the surface The valleys of the rivers Ajoy and Mayurakshi show presence of

ferruginous laterite Some 8 miles west of the district town Suri, the well-known sulphurous springs of the Bakreswar gush out Some of these are hot springs and some are cold springs One, known as "Agnikunda", has been found to gush out radio-active water

24.
In general, the surface of the district is undulating and irregular.

25
Bankura —The soil is mostly composed of sandy loam and laterite gravel The high lands are poor in quality and can grow early varieties of rice, maize and some Rabi crops The low lands are comparatively more fertile with the washing from the highlands

26
Soil of Katulpur police-station lying south of the Darakeswar, Sonamukhi police-station lying south of the Damodar and Indus police-station, lying in between the rivers Darakeswar and the Damodar, is composed of recent alluvium It is loamy and clayey in texture

27
The rocks of the Chotanagpur tract have extended into the western portion of the district The low lands lying between the hills are capable of growing rice The Raniganj coal-field has entered in the north of the district between the Mejia and the Biharinath hills The iron-ore series rocks present in Singhbhum and Manbhum districts of Bihar continue in the south-west of the district

28
There is another hill known as Susunia in the north-west portion of the district It is of geological interest for having a felspathic quartzite top

29
Near the meeting corners of Bankura and Midnapore districts of West Bengal and Manbhum district of Bihar, there stands nearly some 8 miles by 4 miles granite rock, locally known as "Kuilapal" There are other places in the Sadar subdivision where rocks remain exposed on the surface or just below the top soil But in Bishnupur subdivision no considerable rocky surface is found Deposits of Wolfram (ore of Tungsten) have been found in the district Presence of China clay has also been reported (from Saltora police-station) Mica dusts from mica deposits of the district are carried by the Cossey system and are spread over a large area Ghutin (i e Calcium carbonate concretions) and Kankar of ferruginous concretions are found quite in abundance

30
Midnapore —Eastern portion is mainly alluvial The clay soil is known as entel, loam as dorash or doseta and sandy loam as bele doansh The clay soil has the following sub-classes, viz , (1) Ghara entel, its colour varies from blackish to yellowish It is very hard and is widely used for erecting walls of huts It is very poor in fertility and requires heavy manuring for growing crops (ii) Nona entel is saline When dry, due to the presence of salts, its surface looks whitish It is not suitable for cultivation (iii) Banmati or pashumati, it is soft and reddish in colour. It can grow rice and (iv) dudhe entel is blakish in colour It is widely used for making pottery articles

31
Soils of marshy areas are known as pani mati, river silt as pali mati and ditch mud as pank mati.

32.
The western portion is mainly lateritic. The soils in this tract are mainly loam and sandy loam of reddish brown colour but abovementioned local names are used for soil type identification This tract is less fertile than the alluvium tract

33
Deposits of soapstone have been found in the district. From saline soils, common salt is extracted in the coastal areas

34
Hooghly —Soil of Goghat Police-station, lying west of the river Darakeswar, consists of broken laterite, kankar and old alluvium Laterite washing from the high lands of the Bankura district has made the soil quite rich in lateritic content The surface is somewhat undulating and rocky

35
The remaining part of the district is mainly new alluvium The sub-soil is mainly clay In certain areas, silt deposition from the Hooghly and once flourishing the Saraswati has developed surface with entel mati, whereas the deposition from the Damodar and its branches has formed light and porous soil surface But at places, the latter system has deposited reserves of sands As such, in different places (like Magra) of the district, layers of sands are found as sub-soil

36
The swampy areas have tough clay soil on surface In the north of the district laterite soil and coarse grained sand are found

37.
Howrah —It is mostly alluvial The river beds are generally sandy but silted up river beds and general fields have sticky soil The soil of north portion of the district varies from clay to heavy loam The soil of south portion is mainly light loam.

38
Jalpaiguri —Speaking generally, the soil is alluvium ranging from pure sand to clay but is mainly sandy loam

39
Between the upper and lower Tandu Forests in the tract lying within the rivers Tista and the Jaldhaka, the soil is hard black clay The southern portion of this tract has clayey to sandy loam soil It is well suited for making of the bricks and earthenwares It can grow fine tobacco and can be used well as pastures

40
The uplands of north Duars has ferruginous clay soil, which is very suitable for good tea cultivation In Duars area, old sandy beds of many rivers and streams from the Himalayas lie scattered Near the foot hills they are strewn with boulders, lower down with gravel and further down with sand Presence of these elements brings problems in cultivation

41
Some coal is found in neighbourhood of Jayanti, lying at the north-east of the district near the boundary line of West Bengal and Bhutan Some copper and medium grade iron ores also have been found in this area The deposits of the dolomite in rocks are of quite importance

42
The low lands, known as "Dahala" contain clay with small admixture of sand The high lands, known as "Danga" mostly consists of sand. The medium lands, known as "Sahari" lie in

between the above two classes The tract, lying between the rivers, Torsa and Tista, produces quality tea This area has light loam somewhat stony soil of deep brown colour rich with organic matters

43

Darjeeling —The Terai is the long stretched great forest belt lying at the bottom of the Himalayas The Terai tract, lying within West Bengal, has alluvium soil of light sandy loam texture Rato, i e, a kind of red soil is found in patches of areas lying in Kalimpong and Gorubathan police-station of Darjeeling district

44.

Some tracts are full of boulders, kankar and sand But at places, quite good soil can be found even high up on the hills Of these, the black soil is the richest, white soil is the poorest and red soil lies in between them Good manuring is necessary for reddish soil for growing good crops The black soil can grow dry crops like maize, marua, etc, and is known as kalo mati Black soil is rich in humus content

45

A small portion of the hill soil consists of stiff loam of reddish colour In general, the soils are poor in lime content

46

Though not quite of commercial utility, some depositions of coal, graphite, iron ore, copper ore, etc, have been found in the district

47

Sukhakhet means land that does not receive irrigation and panikhet means irrigated lands The agricultural lands that are available up to some 4,000 ft altitude are known as "Awal" i e, hot areas and those at an altitude of more than 4,000 ft are known as "Lekh", i e, cold areas

48

Some areas, lying at an altitude of some 3 to 4 thousand feet (average annual rainfall varying between 80 and 120 inches), have the soil of clayey nature and is highly acidic Such areas are well suited for Cinchona cultivation

49

Some areas have soils of fine texure containing high percentage of organic matter Such areas receive high rainfall but does not suffer from water logging due to efficient drainage facilities Such areas produce the famous Darjeeling tea

50

Malda —Silt deposition from the Ganges keeps the southern part of the district very rich The northern portion is also quite fertile In both the areas, double cropping is often practised

51

The district may be divided in four natural divisions (i) Barind, (ii) Tal, (iii) Diara and (iv) Central area—

(i) Barind, which is comparatively higher tract, lies on the east of the Mahananda The soil is sticky and hard with low fertility Winter rice is grown in some such suitable areas In other times, the areas remain almost arid (drinking water is scarce in this area) The low-lying areas near the Tangon and the Punarbhava are used for cultivation During rains, these areas (mainly the Duba areas under Habibpur and Bamangola police-stations) get enough water and this provides the opportunity for growing Boro paddy in certain portions. Blackish basta and reddish ranga mati are the clay soils of the Barind area The Barind tract is undulating The tract mainly covers old Malda, Habibpur, Bamangola and Gazole police-stations

(ii) *Tal* —The Kharba police-station, lying west of the Mahananda, is high but almost of uniform level Further west, the land slopes down to form the Tal areas of Harishchandrapur and Ratua police-stations This area gets inundated with the rising waters of the rivers The area is mostly under cultivation or orchards (mainly mango) The tract mainly covers Kharta, Ratua and Harishchandrapur police-stations

Tal area can grow two crops a year Higher lands in Kharta and Harishchandrapur is used for growing Aman paddy

(iii) *Diara* —The western and south western portion of the district gets silt deposition from the Ganges and is extremely fertile The area is very suitable for agricultural purposes and holds many orchards The island char of Bhutnidiara (having an average size of some 32 miles by 8 miles) is under the Manickchak police-station and is quite suitable for agricultural works

(iv) *The central area* – It is rich with mango groves With irrigation facilities available from the rivers and many tanks, some cultivation is also undertaken in this tract

Matial or matal is mainly clayey with small admixture of sand Dorash, which is well-suited for double cropping contains more sand than matal Mashina is mixture of mud (of the Ganges) and fine sand

West Dinajpur —Soil of north-western portion of the district and some areas on the banks of the rivers Tangon, Punarbhava and Jamuna, usually is light sandy loam The area is known as Pali area, though in general, it does not contain much of pure Pali but rather forms out of mixture of Pali and sand It can retain moisture well and is well-suited for double cropping (Aus, jute, mesta, sugarcane, vegetables, etc, in Khariff season and mustard, chillies, wheat, barley, pulses, vegetables etc, in Rabi season) The crops are grown mostly as "Barani," i e, non-irrigated crops

53

The south-western portion of the district is usually low-lying and as such the low lands are inundated during floods The soil is mostly ash coloured stiff clay Such lands are used for growing one crop only (either Aman or some non-irrigated Rabi crop)

54

In the southern and eastern portions emerge out the Khiyer tracts on the fringes of the Barind tract of North Bengal The soil is red to reddish black in colour The old alluvium soil is clayey to stiff clayey in texture and contains Kankar (reddish ferruginous concretions) It is usually poor in organic matter and phosphate content This tract generally grows single crop and Aman is usually the main crop Due to poor moisture retaining capacity and stiff nature, the soil cannot grow Rabi crops without irrigation In limited areas, where irrigation arrangements are available, sugarcane, potato, vegetables, etc, are grown The high lands are generally left alone for agricultural purposes.

55

Cooch Behar —The soil in general is alluvium Presence of sand in soil is quite remarkable A good portion of the district has light loamy soil which can retain moisture well and does not usually get water logged When dry, it can be broken up easily and as such soil preparation is not a difficult task Fine loam surfaces are generally not very deep and in sub-soil lies fine sand followed by coarse sand

56

The eastern portion of the district contains black loam The areas, lying west of the river Kaljani and in between the rivers Tista and the Jaldhaka, are quite rich The central portion is sandy The river system still throws enough sand and silt on the lands

57

In general, the high lands are more sandy If properly cared for, such areas can grow good tobacco, sugarcane, bamboo, betelnut, etc The low lands can grow some Boro rice The medium lands are very rich and contain ash-coloured loam soil They can grow rice and jute well

58

Apart from the various divisions discussed in the previous pages, some other classifications are also in vogue These are based mainly on local land classifications made with reference to level of land, soil fertility, suitability for growing different crops, etc

59

According to the local conventions, lands are mainly divided into classes (i) Vita and (ii) Mathan Vita is further subdivided into three sub-classes (a) Bastu, homesetad lands, i e, where people build living quarters, (b) Udbastu, land adjoining to living quarters and (c) Bagat, land in and within villages where people have their groves or orchards

60

Mathan is sub-divided into two sub-classes (a) Sali and (b) Suna Land, specially capable of growing Aman rice, is known as Sali and land, specially suitable for growing Aus rice (along-with rape and mustard, linseed, gram, pulses, etc), is known as Suna Sali is usually lower than Suna In consideration of fertility, they may be called awal, suem, duem or chaharam Awal is first class or best land, suem is second class land, duem is third class land and chaharam is fourth class or worst land Thus Sali awal means first class Aman land and Suna Chaharam means worst Aus land Sali is low fertile land and if properly cared for, can produce even three crops in a year

61

Sometimes, in consideration of levels of lands, the attributes danga, dahar, beel kandure or beel are used In Sali danga land, water has to be specially preserved with ails for growing Aman paddy In dahar land water stands during the rainy seasons In beel kandure land, which are low lying lands, more or less water is always available And beel means fairly big areas under water

62

In Bankura district, the terrace lands having different levels are known as the Danga, Bad, Kanali and Sol In Malda, they are known as Vita (highest level)), Danga (high lands growing some Rabi crops), Arkandar (terraced slopes for growing Aman paddy), Kandar (best Aman land), Banduba (areas getting submerged during floods) and Duba (areas that usually remains under water, specially during rains).

63

Of course, apart from the above general classes, many other classifications are used locally in the different parts of the State Such classifications are left aside to avoid the lengthy details.

64

A brief note on soil in general —A casual inspection of soil shows that it is composed of particles having different sizes These particles have different names according to their sizes

Name	Diameter of particles (in mm.)([1])
Gravel	Above 2·0
Coarse sand	2 0—0 2
Fine sand	0 2—0 02
Silt	0 02—0·002
Clay	Below 0 002

65

These particles are the products of decomposition of rocks The decomposition or weathering of rocks may be chemical in nature or may be physical (e g , effects of wind, water and temperature variation) in nature but the subsequent biological process carried on by the microbes (extremely small living bodies) is essential for formation of soil from these rocky matters([2]) The rocks that give rise to soil, are essentially complex chemical compounds containing alluminium, iron, calcium, magnesium, sodium, potassium, etc Consequently, in soils also these elements occur This is obvious that properties of soil depend both on the nature of the rocks out of which it is formed and on the process which converts the rocks into soil Formation of soil is a slow and long process

66

Presence of organic matters in the soil plays a very vital role for the growth of plants Fertility of soil depends greatly on the presence of soluble organic substances, i e , "humus".

67

Many elements are required, more or less, by a plant for its normal healthy growth The soil must be able to supply both the major and minor requirements of the plants to raise good crops But, all soils do not contain all such requisites Elements like nitrogen, phosphorous, potasium, etc , are not present in pure states, they are present in form of different chemical compounds The plants cannot take in the insoluble substances (soluble substance in solution only can be taken in by them) Insoluble compounds, as such, are not of immediate and direct concern to plants Some soils cannot withhold water for long and as such, plants may have to face starvation, if water is not made available from time to time Sometimes, unwanted water logging stops aeration at the root and bring another type of problem Thus, a number of different chemical and physical properties taken together determine the richness and suitability of an area for growing crops

([1])1 millimeter=0 039 inches, i.e , 1/25 inch (approximately).

([2])Generally speaking, particles, gravel to silt are formed out of physical disintegration and clay is formed out of chemical process Organic matter comes through the actions of the microbes. The soil contains an enormous microbiological population—a great number of species of bacteria and generea of fungi, actionomy-utes and algae along with a large number of families of protozoa, nematodes and other tiny living organisms To have just a rough idea regarding the sizes of population of living organisms in soil, it may be said that one gram of soil may contain 4,000,000,000 bacteria, 1,000,000 protozoa, 100,000 algae and so on. Of course, the sizes vary widely depending on several factors like availability of food, moisture, temperature, aeration condition, etc.

68.
When the soil does not contain the requirements of a crop, they can be added artificially to the soil. Soils may be classified according to physical and chemical properties The following classifications are based on physical properties([4])

69
Locally the soil is classified into three groups (i) Entel, (ii) Bele and (iii) Doansh They are further divided into sub-classes like Doansh, Bele-Doansh, Entel Doansh, etc

70
Entel —Soil containing clay as major part is known as Entel mati and as such is clayey soil As clay particles are very fine, they may remain in compact form leaving almost no space in between them Due to this property of compactness, pure Entel mati is heavy. It gets very hard when dry and sticky when wet Entel mati, due to stone-like hardness, cannot be cultivated when dry and as such always has to be cultivated when wet or moist But if after cultivation, drought conditions prevail, the cultivated fields become once again extremely hard These often go to increase the cost of cultivation on Entel mati

71
Bele —Soil, containing sand as major part, is known as Bele mati and as such is sandy soil Due to presence of sand, Bele mati is lighter than Entel mati In tropical areas, Bele mati, containing too much of sand, is not suitable for good cultivation for in dry days the soil becomes very dry soon after irrigation or rainfall (as it cannot retain water).

72
Doansh —Generally speaking, soil containing clay and sand in almost equal proportions is known as Doansh Doansh with more clay than sand is known as Entel-Doansh and Doansh with more sand than clay is known as Bele-Doansh

73
Doansh is very well suited for growing most of the crops It can be cultivated easily and its response to fertilizers and manures is greater than those of Bele and Entel mati Entel and Bele mati if treated with organic matters gets gradually converted into Doansh mati Cultivation of leguminous crops like Sunn hemp, Dhaincha, etc , as green manure can do the job well. Town compost, village compost, sludge, etc , are also quite useful for the purpose

74
Entel mati cannot take in water fast and as such, in case of heavy rainfall, water stands on the surface This water logging acts as a weakness of this soil type Again, once Entel mati begins to dry up, the surface cracks With such cracking up, the interior of the soil also gets exposed for further drying up After such long drying, the soil becomes extremely hard and it takes a long time for water to move inside and moisten the soil again

75
Pores of Bele mati are larger than those of Entel mati For this, Bele mati can hold more water than Entel mati but cannot retain the same so long as Entel mati can Due to having larger pores, air circulation is also easier in Bele mati and lack of air circulation facilities is another weakness of Entel mati

76
Doansh mati, having its properties in between these, is good for agricultural work

77
Loam —This name deserves a special mention for its wide application This comes between sand and clay—it is neither as heavy as clay nor as light as sand It usually contains 10-15 per cent of clay and not more than 20 per cent of sand It is rich in humus content

78
Strictly speaking, Doansh and Loam may not mean the same type of soil But they are used in the same sense In Doansh, the contents of both clay and soil may be more than those in Loam Loam is richer in humus content than Doansh However, starting from Loam, according to the proportion of sand and clay present in soil, the following classifications are made —

79
Loam with more sand is known as sandy loam and corresponds to Bele-Doansh

80
Loam with more clay is known as clayey Loam and corresponds to Entel-Doansh

81
When proportion of sand is extremely high, the soil is often termed as Loamy sand and it corresponds to Bele mati The following classifications are based on chemical properties of soil

82
Calcareous soil —Soil containing high percentage of lime is known as Calcareous soil

83
Saline soil (*Nona mati*) —Soil impregnated with salts is known as Saline soil The soils of the coastal areas of 24-Parganas (Sundarban areas) and Midnapore district are saline.

84
Laterite —Laterite is porous argillaceous (i e , clay bearing) rock containing considerable proportion of iron When freshly exposed, the surface contains some whitish clay, free from iron Due to erosion by wind and water gradually the softer portions are removed, the remaining surface becomes irregular and hard The low level laterite of West Bengal, lying in the western portion of Burdwan division, is mixed up with sand, quartz, pebbles (kankar), gravel and ferruginous sandy clay Laterite receives reddish colour from the iron present in it Laterite soil generates out of the decomposition of laterite rock It is also a long and very slow process Generally, humus content in laterite soil is low and the soil is poor for agricultural purposes Water-holding power of such soil is also not high The soil, generally, contains much of iron and alluminium but is deficient in other plant nutrients.

([4]) *Texture* —The quality of soil with reference to the size of particles is defined as the texture of the soil, i.e., clay, silt, loam, doansh, etc are textural classes

Structure —Texture alone cannot describe a soil As for example, if only size of soil particles were all, clay particles would have always formed compact masses, impervious to water and air But it is known that water enters within clay soil also and clay soils from different areas may have different water and air holding capacity Due to arrangements of clay particles, pores exist within clay soil also It is true, arrangements of particles and pores within soil depend on the texture The property of soil with reference to the arrangement of soil particles is known as the structure of the soil.

These are important characteristics of soil Fertility and tilth (i e , physical condition of soil for crop production) are dependent on them

The soil stratum develops fairly well defined system of layers known as "horizons" The system of horizons that constitutes the stratum is known as "soil profile" In carrying out soil surveys and soil classification study of characteristics is of great importance

Generally speaking, top soil has a depth of 9".

85
Acidic and alkaline soils—It is known that lime (a compound of calcium), sodi bicarb (i e., sodium bicarbonate), soda (washing soda), magnesium carbonate etc , are alkaline substances and are antacid. Whereas substances like humic acid, as their names suggest, are acidic (i.e , sour)

86
Soil may become acidic or alkaline according to the extent of presence of such substances Soils rich in calcium, sodium, etc., are generally alkaline Whereas soils, which are poor in these constituents, are acidic But soils which are balanced with the presence of the acidic and alkaline substances are neutral in nature Neutral, slightly acidic or slightly alkaline soils are well suited for agricultural purposes

87
Most of the saline areas are either neutral or alkaline The calcareous areas, which are mainly situated in the gangetic plains, are slightly alkaline Laterite and red soils areas are slightly acidic Soils of North Bengal (district of Darjeeling, Cooch Behar and Jalpaiguri) are generally acidic Highly acidic or alkaline soils are not suitable for agricultural purposes However, the acid soil may be improved (i e , made less acidic) by the application of lime The alkaline soils may be improved (i e , made less alkaline) by the application of gypsum, sulphur, etc

88
Soil is formed of the physical disintegration and chemical decomposition of rocks Starting from this, another type of soil classification is made According to this mode of classification, the soils are divided into two classes (i) Residual or sedentary and (ii) Transported

89
Residual soil is that soil which has not moved much from its place of origin The hill areas of Darjeeling district contain such soil The soil of western portion of Presidency Division has a good proportion of residual soil as its constituent

90
The transported soil, as suggested from the name, means the soil that has been carried away from its place of origin and deposited elsewhere. This class has the following three sub-classes, viz. (a) Aeolian and sand, (b) Drift or boulder and (c) Alluvium

91
Aeolian—The deposition of soil carried by wind is known as Aeolian soil In arid areas, such soil is of great concern In this State, apart from some local transportation by wind, in general, Aeolian soil does not form an important type The "baliaris" near the Midnapore coast show such deposition

92
Drift or boulder—Sometimes hilly rivers drag on boulders, kankar, etc , and deposit them when the rivers are no more capable of carrying such heavy things The hilly rivers of Darjeeling district and Duars area of Jalpaiguri district show such deposition

93
Alluvium—Fine particles that are deposited by water flow is known as Alluvium soil In West Bengal alluvium soil is generally known as "Pali mati" Alluvium soil, as a type, is most important in West Bengal due to the fact that the major part of the State has been formed out of the gradual and the long process of Alluviul deposition

94
The Alluvium soil may be old or new In old Alluvium tracts, due to various effects like those caused by wind and water (along with decomposition of organic matters), the nature of the soil gets changed As such old Alluvium soil may differ from the new Alluvium soil

95
It is obvious from the above statements that the Alluvium soil may have as its constituent Doansh, Bele-Doansh, Entel-Doansh, Loam, etc , all that water flow can carry

96
The newer Alluvium soil is found near the delta of the Ganges and channels of other rivers. In general, the soil type varies from sandy and loamy to clayey in texture

CHAPTER V

(Weather Conditions)

(Tables 5.1 to 5.8)

1.

The Tropic of Cancer runs across the middle of the districts of Nadia and Burdwan and northern portion of the district of Bankura The area, lying north of the line, falls within what is known as the North Temperate Zone and the southern portion within the Torrid (i e , Equatorial) Zone. Though the lower portion lies within the Torrid Zone, presence of the Bay of Bengal, network of the river system, canals, beels, tanks, etc , do not allow extreme climatic conditions to prevail upon.

2

Seasons and weather conditions are guided mainly under the influence of the Sun When the rays of the Sun fall directly, they are more intense than when they fall slanting Due to relative position of the Sun and the Earth, the Solar rays reach the surface of the Earth at different angles (slants) at different times of the year The Sun is known to move up and down annually (Uttarayan and Dakshinayan) On 21st March, the Sun crosses the equator on its northward movement As the Sun thus gradually comes overhead, the State receives more of the direct rays The summer approaches

3

Then finally on 21st June, it reaches the most northward position On this day, the people on the Tropic of Cancer see the Sun just overhead Below the Tropic of Cancer, one sees the Sun inclined towards the north But people of places above the Tropic of Cancer always see the Sun inclined southward The further one goes to the north, the lower he finds the Sun towards the horizon in the south However, then again the Sun moves southward and winter approaches The Sun reaches the equator on 23rd September on its further southward journey From 23rd September to 21st March, the Sun lies below the equator and the northern hemisphere enjoys winter

4

This periodic movement of the Sun goes on year after year and thereby the seasons follow a cycle on and on

5.

The places between the Tropic of Cancer and the Tropic of Capricorn, obviously, get the Sun twice overhead and with the direct rays falling on, cannot but be hot Places, lying north of the Tropic of Cancer but not far from it, do not get the Sun overhead, yet the approach of the Sun nearly to overhead position makes them hot with almost direct rays As such, almost whole of the plain of West Bengal has high temperature during summer This periodic shifting of the position of the Sun with reference to the Earth, as has been stated, mainly controls the season and weather conditions However, this is also true that many local factors, major and minor, are responsible for having the actual state of season and weather conditions All these factors make seasons, rather the phenomenon of weather conditions, something very complex

6

An important feature of the climatic conditions of the State is the periodic winds that blow across it The seasonal winds are known as the monsoons.

7

A year may broadly be divided into three main seasons, viz , Winter from November to February, Summer from March to May and Rainy from June to September (or early October) The three other known seasons, viz · Basanta (i e., Spring in between Winter and Summer), Sarat and Hemanta (in between the rains and winter) also show up their characteristic features in turn but they have very short durations

8

The State can mainly be divided into two broad regions, viz (i) Himalayan and Sub-Himalayan West Bengal, (ii) Gangetic West Bengal

9

(i) *Himalayan and Sub-Himalayan West Bengal* —The districts of Darjeeling, Jalpaiguri and Cooch Behar form this region Jalpaiguri and Cooch Behar districts mostly are plains (some 300 feet above sea level) but in the north of Jalpaiguri district abruptly appear the mighty foot hills of the Himalayas Apart from Siliguri subdivision, Darjeeling district is on the Himalayas Starting from plain land, in a few miles, spurs of some 6,000 ft or more height lie scattered—this suggests the abruptness of the rise of the Himalayas out of the alluvial plains Further north, stand the majestic, snow clad mountain ranges and peaks of the Great Himalayas This natural wide and lofty wall system has great influence over the rainfall and other weather factors of this region The moisture-laden winds, moving northward from the sea, cannot blow across it Clouds formed in the valleys of the hills and clouds moving up from the plains, pour down rains over the area The average annual rainfall of Jalpaiguri district is 156 22″ and average number of rainy days is 110 The average annual rainfall of Cooch Behar district is 112 28″ and average number of rainy days is 102 and those of Darjeeling district are 136 41″ and 114 days respectively (According to current convention, every morning at 8 a m rainfall data are noted to register the rain that has fallen during last 24 hours, starting from 8 a m of the previous morning When such a record shows that rainfall was not less than 0 1″, the day is noted as a rainy day)

10

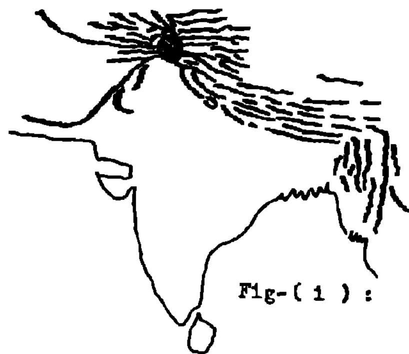
It is obvious that the rainfall cannot be uniform throughout the districts There are some variations in rainfall even within a district Buxa, lying south of the Sinchal Hills at an altitude of 1,800 ft above the sea level, gets annually, on an average 226″ of rainfall, Kumargram 156″, Kurseong 195″, Kalchini 173″, Cooch Behar 127″, Alipurduar 173″, Siliguri 138″, Jalpaiguri 137″ Mekliganj 121″, Darjeeling 118″, Dinhata 102″, Mathabhanga 103″, Kalimpong 100″ and so on

11

In summer, when the plains are hot and humid the elevated areas on the hills enjoy delightful coolness There are areas within Darjeeling district, where every year the temperature goes below 32°F (i e , the freezing point) Even in Darjeeling town, often during winter, temperature goes down below 32°F

12

Most of the rains in this region come between May and October In Jalpaiguri and Cooch Behar districts, thunder and hail storms are


Fig-(i) :

Fig(i): It shows the Himalayan mountain system, which acts like a wall and influences the weather conditions of the region to a great extent.

Fig (ii). A rough diagramatic model of the distribution of atmospheric pressure in a cyclone. The lines are isobars, the pressures are given in millibar. The arrows indicate the direction of wind.

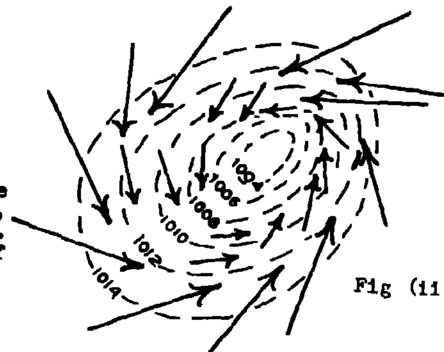


Fig (ii)

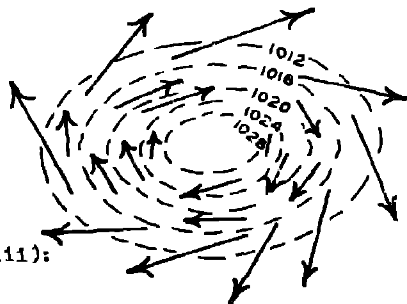


Fig (iii):

Fig (iii) A rough diagramatic model of the distribution of atmospheric pressure in an anti-cyclone. The lines are isobars, the pressures are given in millibar. The arrows indicate the direction of wind.

Fig (iv) : A B is held perpendicular and A C is held inclined to the rays. A C is obviously bigger than A B . As such, the intensity of rays falling on A B is greater than that falling on A C .

Such variation in the intensity of the Solar rays falling on the surface of the earth is at the root of the changing seasons.

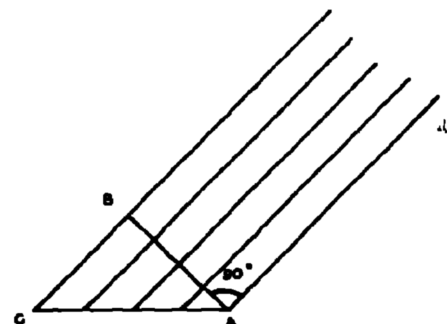


Fig (iv):

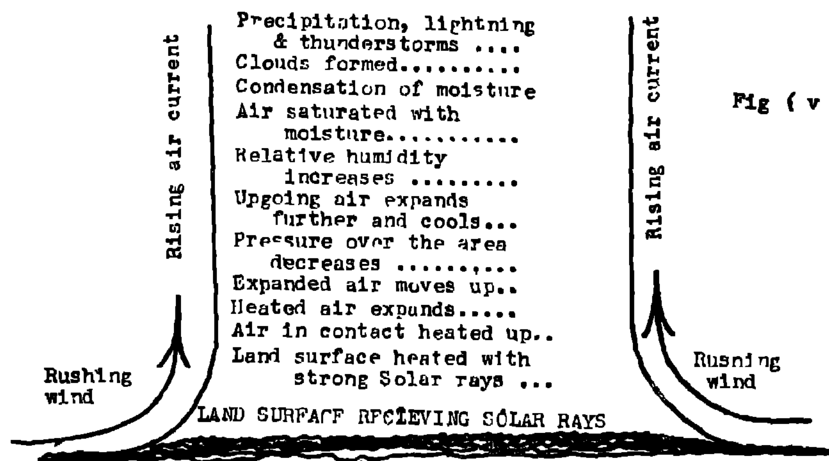


Fig (v) :

Fig (v) : Schematic diagram of the formation of a Nor'wester.

frequent between April and September Whereas in Darjeeling district, the thunder-storms generally occur between March and June At times, during such disturbances, raining may (the rate may even be more than 12" in 24 hours) continue for days together Such heavy rains often cause landslides in the hills and when such heavy showers come down over extensive areas, hillborn rivers swell up suddenly with the drained-out water and cause floods in the plain The hill-born rivers rush heavily till draining out is complete

13
Gangetic plain of West Bengal—In consideration of average annual rainfall, the region may be divided into following three sectors Sector (a) having an average annual rainfall between 45" to 55"—districts of Bankura, Birbhum, Murshidabad and Burdwan may be considered to form this sector Sector (b) having an average annual rainfall between 55" to 65"—districts of Nadia, Malda, Hooghly, western portion of West Dinajpur, Midnapore, upper portion of 24-Parganas form this sector Sector (c) having average annual rainfall between 65" to 75"—Howrah, eastern portion of West Dinajpur, southern portion of 24-Parganas and Midnapore form this sector

However, the above divisions have been based on average annual rainfall data Obviously, the annual rainfall of an area does not remain constant over years, it may exceed or fall short of the average And consequently, as the above divisions have been made on the basis of average rainfall, they are obviously rough in nature

15
Cloud formation during thunder storms, drifting of clouds during cyclonic days, rainfall from different types of clouds etc are all common phenomena But nonetheless, they are not simple in nature As is generally known, thunder storms are different from cyclonic storms In Bengal the thunder storms (i e , the Nor'westers) that rise between April and May are locally known as Kal Baisakhi Such storms do not affect extensive areas and as such may be considered as local atmospheric disturbances One more characteristic of this type of storms is that they do not prevail over long periods But, though thunderstorms are local and short-lived, they may be severe in nature On May, 1, 1946, during one such storm over Calcutta, winds speed was reported to be as high as 80 miles per hour

16
During very hot days, the air often remains full of moisture When on such days, the lapse rate of temperature (i e , rate of variation of air temperature with reference to altitude) is high, strong upward currents of air set in Of course, generation of this type of vertical instability in atmosphere is quite a complicated process It may be generated due to several factors like strong surface heating Air, coming close to the heated land surface, gets heated and, as is known, the heated air moves up Colder air, from surrounding areas, rushes to fill up the gaps Such air also, in time, gets heated and moves up Thus air, getting heated moves up continuously for sometime and try to initiate the formation of thunderstorms through a series of complex natural phenomena Such atmospheric disturbances give birth to well-formed cloud ranges out of the moisture present in the air A Kal Baisakhi is an atmospheric disturbance created by such rushing air Generation of high statical electricity in the atmosphere (which is yet another set of complex phenomena) causes lightning flashes and thunders But as has been stated, such a process generally does not take a long time from start to finish After that, the atmosphere calms down again.

17
Thunderstorms are not rare happenings in the State, during hot seasons they occur every year and bring much coveted showers after long sultry days, helping to start the agricultural operations for Kharif crops These storms, at times, damage properties and may kill a few lives too Actually, in West Bengal, they are more beneficial than devastating([1]) If such showers do not occur favourably, cultivation of Jute, Aus, etc , suffers

18
Cyclonic storms usually prevail over longer periods and affect larger areas Broadly speaking, due to some natural phenomena, atmospheric pressures over certain areas, mainly over the Bay of Bengal, get lowered compared to the atmospheric pressure of the surrounding areas. When such a depression occurs, the air from the areas having higher pressure, rushes to fill up the gap Such an onrush of air towards the depression, with effects due to the diurnal motion of the Earth, creates the phenomenon Air rushing simultaneously from several directions gives birth to a whirlpool of winds Thus, in such a disturbed area, winds have spiral motions Generally, when the whirlpool spreads out widely, its ferocity calms down

19
At prime, a giant atmospheric whirlpool may even be 5/6 miles deep and more than 1,000 miles in diameter The core, i e , the eye of the disturbance may move at the rate of some 25-30 miles per hour or again may not change its location and remain almost stationary. In the northern hemisphere, the winds of a depression circulate round in an anti-clockwise direction (i e , North - Northwest - West - Southwest - South-Southeast-East-Northeast-North)

20
When, however, a depression has been filled up, calmness prevails till again another depression develops to set up a new disturbance Cyclones have a regular life-history They develop, grow intense for some time and then occlude and die out Another feature worth noting is that cyclones frequently grow in families or series As such, atmospheric depressions, which generally bring showers due to cyclonic conditions, have discontinuous spells Cyclonic showers do not generally have short spell of heavy downpours like those of thunder showers but the rates of fall are more moderate and the showers continue over a longer period

21
Technically speaking, "depression" means a cyclonic storm due to whose spiral motions wind rushes as gale (i e , less than 40 miles per hour) But, if the spiral motion of the disturbance is faster, the storms are known as "cyclonic storms". During severe cyclonic storms, air may rush at the rate of 60 miles per hour or even faster A depression is said to be "deep" when compared to the pressure of the surroundings, the pressure is very much lower near the centre and if the difference of pressure is not so large, the depression is to be "shallow" On daily synoptic weather charts (some newspapers publish them for general information), their locations are indicated by a number of isobars Isobar means a line joining places having same atmospheric pressure The isobar for the lowest pressure, obviously, lies nearest to the centre, i e., the eye

([1]) **Such storms are more damaging in lower eastern Pakistan.**

of the depressions.[2] In the Bay of Bengal, the diameters of the depressions are generally some 100/300 miles long, though at times, they may be somewhat longer These depressions generally move at the rate of some 10 to 15 miles per hour The cyclones are quite common occurrences in the head of the Bay of Bengal and they keep the Bay remarkably rough but do not generally strike the coast Cyclones, whirling over the Bay, send wide spread dark rain-bearing clouds over the State The low clouds cover the sky and bring showers. When the sky remains overcast with clouds, the showers and the moist cyclonic winds keep the temperature considerably low. But when the cyclonic clouds clear off, the quick rise in temperature (the Sun remains almost overhead) with prevailing high relative humidity[3] usher in depressing and sultry weather conditions. As has been stated, the cyclones do not generally come over the land surface but when they come, furious storms and heavy rains go together to bring disastrous effects The cyclone of 1942 was one such October cyclone that came over to the Midnapore district and its fury was oddly felt in the districts of Midnapore and 24-Parganas[4]. It is fortunate that diameter of such cyclones are not large and as such, even if they come over land, they do not get huge areas in grip[5]

22

During months of November to May, depressions are formed in the lower region of the Bay But they remain too far from the State Excepting occasional ones in May and November, they can rarely reach up to West Bengal

23

The following table shows the number of cyclonic storms and depressions from the Bay of Bengal that passed over the State during 20 years ending in 1950 :—

January	0
February	0
March	0
April	0
May	3
June	7
July	21
August	23
September	12
October	13
November	2
December	0
Total	81

([2]) Of course, not only cyclonic conditions but the daily pressure variations are also indicated on daily synoptic charts with the insertion of isobars. It is obvious that in the day-to-day synoptic charts, the isobars cannot always give rise to circular or elliptical or some such well known patterns Actually, the study of synoptic charts shows changing sets of lines on the face of the maps As the picture of pressure variation changes on with time, the nature and position of the isobars also go on changing on the map

([3]) Suppose a given volume of air at a temperature can hold 10 grains of water vapour per cubic foot If, it actually contains only 5 grains of water vapour per cubic foot, it is only half saturated and relative humidity of the volume of the air is 50 per cent. If, it actually contains only 7 5 grains of water vapour per c f, it is ¾ saturated and relative humidity of the volume of air is 75 per cent. As such it is clear that relative humidity is given by —

$$\frac{\text{Water actually contained by a volume of air at a temp. T°F}}{\text{Water vapour that can saturate the volume of air at T°F}} \times 100$$

Of course, during rainy season, the weather conditions are often stuffy due to the high relative humidity Actually, a day with moderate temperature may seem extremely depressing just due to high humidity.

([4]) Nearly, 3,600 sq miles in Midnapore and 400 sq. miles in 24-Parganas were affected.

([5]) Such storms are more frequent in lower parts of the East-Pakistan.

24.

The natural causes that guide monsoon winds present a complex study. But as has been stated, the basic cause is undoubtedly the periodic relative rise and fall of temperature in land and water areas depending on the position of the Sun West Bengal (and East Pakistan) lies at the north of the great wedge-shaped depression forming area over the Bay of Bengal This area is well-suited for the interchange of air currents from the equatorial seas and plains of upper India

25

The whole of South-East Asia enjoys the monsoons but within this region, India and Pakistan lying between the vast land mass of Asia and the far extended warm tropical seas, guarded at the north by the lofty Himalayan ranges, backed by the high extended plateux land of Central Asia, remain quite excluded from the remaining area.

26

Incidentally, it may be pointed out that the study of weather conditions of a country, be it far from a State like West Bengal that is situated within the vast sub-continent of India and Pakistan, can rarely be complete, if it is restricted within the administrative jurisdictions of the area Winds do not remain confined within administrative jurisdictions, they blow across many States and countries and affect their weather conditions

27

After paying some attention to the depressions, anti-cyclones need be mentioned, specially, when they also play some role on the weather conditions of the State For an anti-cyclone, atmospheric pressure is higher over an area compared to those over neighbouring areas (and which shows at least one closed isobar, but generally there is a series of concentric closed isobars) In case of an anti-cyclone, wind rushes out (in a clockwise direction) from the central region of highest pressure to outer areas having comparatively lower atmospheric pressure Regarding formation of anti-cyclones also, several factors may be held responsible Winds, having different set up of temperature, relative humidity, pressure, etc , when come into contact may very well generate anti-cyclones (like cyclones, though the requirements for cyclones, obviously, are different)

28

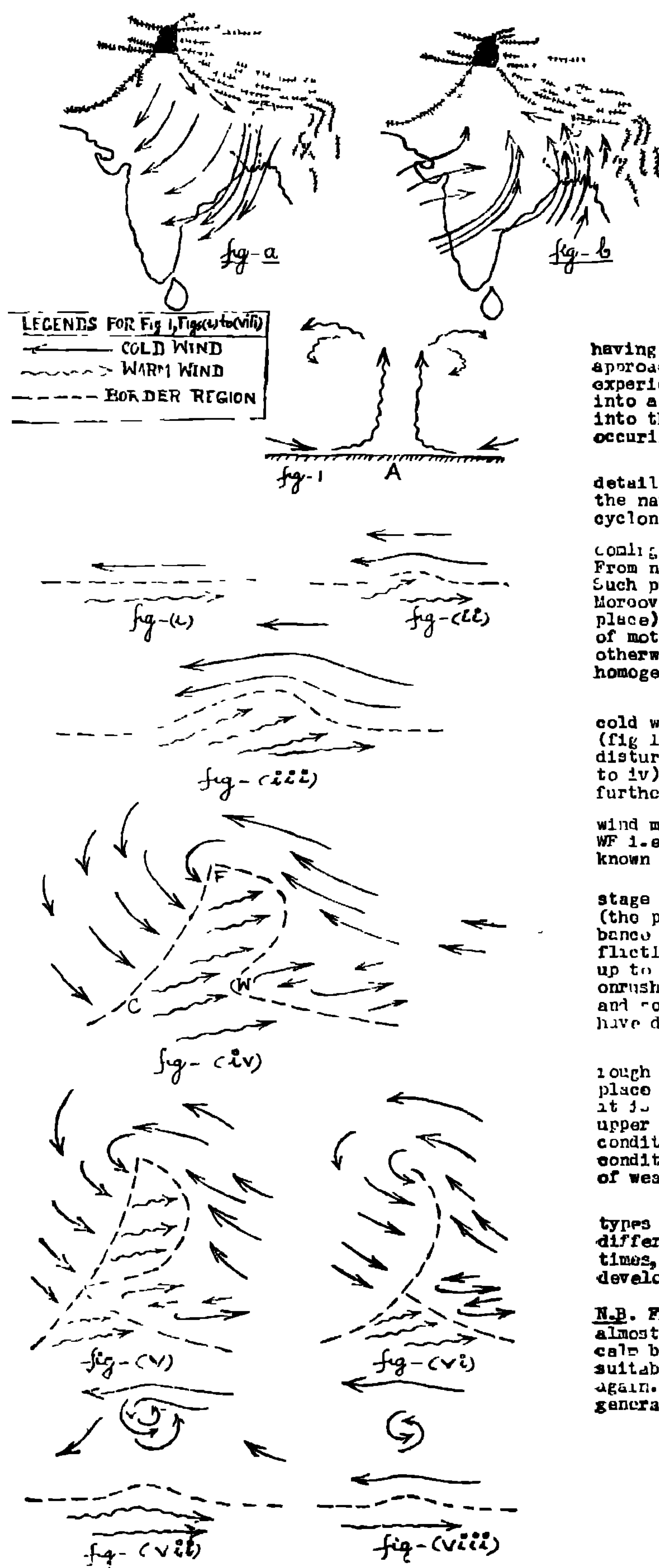
During summer days, anti-cyclones give rise to quite settled type of weather conditions But during winter, they may help formation of fog Generally speaking, the anti-cyclones take quite a time to die out They move very slowly or often remain almost stationary for several days

29

Large-sized anti-cyclones, formed far outside the boundaries of the State, cause the flow of hot and cold waves across the State Actually speaking, references made regarding movements of winds from different directions (during different time) have bearing upon the life-history of the cyclones and anti-cyclones But a thorough discussion leads to technicalities and quite lengthy discussions Literature containing such discussions may be referred to for necessary details.

30

During winter, the Sun remains below the equator and the slanting rays of the Sun cannot bring as much energy to the State as direct rays can bring during summer It is well known that water takes a longer time to warm up and cool down than land During winter days, the Sun warms up the lower Bay of Bengal and the Indian Ocean Land in Northern India remains colder



MONSOON WINDS ACROSS WEST BENGAL(figs.a &b)

(Rough diagramatic view)

Fig(a)- Surface currents, North-East monsoon.

Fig(b)- Surface currents, South West monsoon.

DIAGRAMATIC SECTIONAL VIEW OF THE STAGES OF A CYCLONE (fig1 & figs.i to viii)

There are men, who, looking at the clouds can tell whether it would rain or not. Some men can forecast even the nature of the weather conditions for the next few days. Often, such forecasts of experienced men come true. If asked for, they would hardly be able to explain scientifically the basis of such forecasts. But still experience has been of great assistance in having such anticipations. Starting from such empirical approach, with the accumulation of facts, knowledge and experience, weather forecasting has gradually developed into a physical science.But it, in turn, is taking us into the realm of complications of natural phenomena occuring in atmosphere.

We are not in a position to go into details regarding the subject but may casually mention the nature of mechanism known to be the cause of cyclones.

In fig(1), A is a heated place. Air coming on it, gets heated and the warm air moves up. From neighbouring places, cold winds rush in over A. Such process happens always in different magnitude. Moreover, at different heights(even above one particular place) winds have difference in temperature, direction of motion, velocity, relative humidity and pressure.In otherwords, air above a place is not something homogeneous and uniform.

Now, let us consider a stream of cold wind coming in contact with a stream of warm wind (fig 1). Due to difference in nature and properties, disturbances may set in along the border region(figs.ii to iv) and under favourable conditions may develope further.

Line CF i.e.,where advancing cold wind meets warm wind is known as cold front and line WF i.e.,where advancing warm wind meets cold wind is known as warm front.

Fig(v) shows the development of a stage when cold wind has engulfed a volume of warm air (the process is known as occlusion). Then the distur - bance is most intense and it continues till the con - flicting winds with different properties got well mixed up to become somewhat homogeneous. This leads to onrush of winds, generation of clouds, precipitation and so on. Thus fronts i.e., disturbed border regions have drawn much attention of the metrorologists.

Obviously, above gives only a rough indication of the nature of processes that take place at different heights in atmosphere. From surface, it is not possible to get data about upper air and upper air plays a vital role in controlling weather conditions. As such, data collected regarding surface conditions and upper air from a well organised net work of weather stations are necessary for study of weather.

Frontal disturbances are of many types and even within same types, there are wide differences. Not only cyclones and anticyclones but at times, thunder storms also generate due to frontal developments.

N.B. Fig.(viii) is a stage when the disturbance has almost become quiet. The conditions may become further calm but at the same time from such stages, under suitable conditions, fresh disturbances may develope again. And actually, at times, a series of cyclones generate with the development of a cyclone.

then. The air above the warm sea continues to be at lower pressure than the air above the land and as such winds from land areas of Northern India and East Pakistan rush towards the sea.

31

A great volume of the rushing wind passes across the State of West Bengal. Of course, it cannot rush direct southwards[6] Due to diurnal motion of the Earth, it bends westward The wind blowing from land to sea in a south-westerly direction is known as Winter Monsoon. As the wind seems to be blowing from the north-eastern direction, the wind is known as north-eastern monsoon also This State does not receive rain from this wind It brings rain over Madras and Ceylon in winter because before entering these areas, it can gather necessary moisture along with from the Bay of Bengal

32

The Winter Monsoon, i e , land to sea wind sets in by October and becomes well established by November It blows pretty steadily up to January Then again as the Sun comes up further northward, the sea to land wind sets in During hot days, the air above land surface gets heated up and moves upward leaving the atmospheric pressure low over land surface To raise (or to level) up the prevailing atmospheric pressure of areas having such lower pressure, air rushes from the sea On its way, it gathers moisture Obeying Ferrel's Law, the wind, instead of blowing south to north, blows south-west to north east and is known as the Summer or the South-West Monsoon By February, the sea to land wind pushes even up to the lower portion of 24-Parganas and Midnapore With gradual rise in temperature over the Northern Hemisphere, the sea to land wind gets stronger and more steady till the monsoon actually sets in by the middle of June (in West Bengal, the average date of breaking of monsoon is 7th June) Generally speaking, the wind velocity over the State is least in November and highest in May-June The hot weather thus sows the seeds of the rain on which the State thrives However, in hot months, winds from the hotter Northern India and West Pakistan radiate out and at times such winds reach as far as West Bengal Such winds bring spells of dry hot weather conditions and are popularly known as heat waves from the West But such winds are neither steady nor continuous as far as the State is concerned.

33

The South-west Monsoon starts retreating from North-west India by the end of September Gradually, the wind retreats down along the Gangetic plain and finally it fails to reach even up to the lower Gangetic plain With the retreat of the monsoon, the autumn prevails till the winter ushers in During winter, some disturbances of continental origin approach India across countries like Persia, West Pakistan, etc They bring spells of shower and snowfall over the North-west India but proceeding further eastward when they reach West Bengal, they get very weak Such disturbances keep the sky cloudy and bring a few drizzles over the State As they bring spells of chilly winter weather along with, they are popularly known as cold waves from the West It is fortunate for the State that the intense cold winds that blow across China cannot come over to India Actually, the mighty Himalayas protect the land from the bitter cold north winds of China

34

In October, during the retreat of the South-west Monsoon and onset of the initial unsteady North-east Monsoon wind and again in March-April, during the retreat of the North-east monsoon and onset of the initial unsteady South-west Monsoon, the winds over the State are conflicting and generally unsteady in nature Such conditions quite frequently cause calms and disturbances alternately These disturbances generate thunderstorms (Kal Baisakhi and Ashinner Jhar).

35

The Summer Monsoon that carries moisture from the Bay of Bengal, blows almost across whole of the head of the Bay of Bengal. One portion, reaching the Arakan and Burma coast, brings heavy downpour in the area Another wing passes across the Brahmaputra-Gangetic Delta, i e , across lower West Bengal and East Pakistan This wing is the one, on which depends the rainfall of the Brahmaputra-Gangetic plain

36

Passing of monsoon winds over a certain area does not necessarily ensure precipitation Actually, monsoon winds carry moisture but other proper and necessary physical phenomenon must be there for bringing precipitation out of the moisture laden air[7] The western portion of the Burdwan Division actually does not lie under the direct main route of the moisture bearing monsoon winds from the Bay of Bengal Yet, as they do not lie too far, they receive considerable rainfall But as one goes further west, rainfall gets lighter and lighter gradually On the other hand, along the Himalayas, where the north-bound winds reach saturated with moisture but cannot cross it over, under suitable conditions, the winds bring heavy showers

37

As has been stated in the foregoing pages, the generation, existence and movement of depressions (i e , the set-up of the system of fluctuations in pressure of the atmosphere) play a dynamic role in getting the showers. Onset of the monsoon showers depends on the formation of the depressions over the Bay of Bengal If the depressions are somewhat unfavourable, rainfall may not be normal Due to such complications, sometimes rainfall is early, sometimes late, sometimes scanty and sometimes excessive. Sometimes there is delay in the cessation of the monsoon rains (normally it should be off by the 1st week of October). If the monsoon starts late, the agricultural operations get a bad start If the showers of the monsoon are not adequate, crops suffer Late showers and storms again badly affect the agricuture Though monsoon rains are most vital, importance of nor'wester and others also cannot be ignored for agricultural purposes Thus only overall favourable weather conditions can bring forth bumper production of crops in a year

38

Apart from rainfall, other meteorological factors like temperature, relative humidity, etc , also have great influence over crop production Table 5 4 shows the average monthly maximum and minimum temperatures (in °F) recorded in 14 stations of West Bengal Table-A shows the average variation in temperature at these stations Column (2) of Table-A shows the average hottest and coldest months with reference to maximum temperature and the ranges of

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(6) One law, known as Ferrel's Law, states that due to effects of rotation of the Earth, in the Northen Hemisphere, if wind tends to move from north to south, the direction of movement cannot be direct from north to south but actually comes to be north-east to south-west If the wind tends to move south to north the direction comes to be south-west to north-east.

(7) Sometimes, certain necessary physical phenomena are artificially introduced by men for getting what are known as artificial rains However, such operations generally require certain basic natural atmospheric conditions, i e, artificial rain does not mean extraction of rain from the dry wind on a bright clear sunny day Actually, artificial rain means rain, extracted artificially from suitable clouds under suitable conditions.

variation in maximum temperatures of these stations On an average, April records highest maximum temperature in Chinsurah and Bankura, May in Malda, Berhampur, Krishnagore, Alipur, Sagar Island, Midnapore, Burdwan and Asansol, June-July in Kalimpong and August in Darjeeling, Jalpaiguri and Mainaguri Maximum temperature is lowest in all stations during the month of January This table shows further that variation in maximum temperature fluctuates between 12 8°F and 27 5°F

39

Column (3) of Table-A shows the variation in average minimum temperature in these 14 stations Highest minimum temperature has been recorded in the month of May at Chinsurah and Bankura, in the month of June at Berhampore, Krishnagore, Alipur, Sagar Island, Midnapore, Burdwan and Asansol, in the month of July at Darjeeling, Kalimpong, in the month of August at Mainaguri and in the months of July-August at Jalpaiguri and Malda Excepting at Midnapore and Asansol, lowest minimum temperature has been recorded in the month of January At Asansol, lowest minimum temperature has been recorded in December and it has been recorded in December-January at Midnapore Range of variation in minimum temperature is between 20 5°F and 27 1°F

40

Column (4) of Table-A shows the variation between the highest of maximum and lowest of minimum temperatures Obviously, this shows the maximum variation in average temperatures recorded at these stations It shows that prevailing temperature on an average fluctuates within the range of 29 3°F to 51 6°F Variation is less than 30 °F in Sagar Island and Kalimpong

TABLE A

Average variation in temperature (in °F) at different stations

Stations	Variation in maximum temperature	Variation in minimum temperature	Variation between highest of maximum and lowest of minimum temperature	Variation between lowest of maximum and highest of minimum (*)
(1)	(2)	(3)	(4)	(5)
Darjeeling	Aug-Jany (17 3°)	July Jany (22 2°)	Aug Jany (30 8°)	Jany July (−8 7°)
Kalimpong	June, July Jany (15 4°)	July Jany (20 5°)	June, July-Jany (29 5°)	Jany -July (−6 4°)
Jalpaiguri	Aug Jany (12 8°)	July, Aug Jany (26 4°)	Aug Jany (36 4°)	July, Aug Jany (−1 7°)
Mainaguri	Aug-Jany (21 6°)	Aug-Jany (25 5°)	Aug-Jany (48 0°)	Aug Jany (−9 1°)
Malda	May Jany (18 8°)	July, Aug-Jany (27 1°)	May-Jany (42 3°)	July, Aug-Jany (−3 5°)
Berhampore	May Jany (19 2°)	June Jany (25 1°)	May Jany (43 7°)	June Jany (−0 6°)
Krishnagar	May-Jany (17 6°)	June-Jany (26 3°)	May-Jany (45 0°)	June Jany (+1 1°)
Alipore	May-Jany (15 8°)	June Jany (23 7°)	May-Jany (39 1°)	June Jany (−0 4°)
Sagar Island	May-Jany (23 1°)	June Jany (21 5°)	May Jany (29 3°)	June-Jany (−5 3°)
Chinsurah	April Jany (20 4°)	May-Jany (26 5°)	April-Jany (49 3°)	May Jany (+2 4°)
Midnapore	May-Dec, Jany (20 0°)	June Dec, Jany (24 2°)	May Dec, Jany (43 9°)	June Dec, Jany (−0 3°)
Burdwan	May Jany (19 0°)	June Jany (24 0°)	May Jany (42 6°)	June Jany (−0 4°)
Asansol	May Jany (23 2°)	June Dec (26 0°)	May Dec (47 5°)	June Jany (−1 7°)
Bankura	April-Jany (27 5°)	May Jany (25 9°)	April-Jany (51 6°)	May Jany (−1 8°)

(*)Negative sign indicates that maximum of minimum is higher than minimum of maximum

41

Variation of temperature lies between 30°F to 40°F at Darjeeling, Jalpaiguri and Alipore It lies between 40°F to 50°F at Mainaguri, Malda Berhampore, Krishnagore, Chinsurah, Midnapore, Burdwan and Asansol and it is more than 50°F at Bankura

42

Column (5) of Table A shows the variation between the lowest of maximum and highest of minimum temperatures Excepting at Krishnanagore and Chinsurah, on an average, it has been found that highest of minimum has been recorded higher than the lowest of maximum temperature recorded at these stations

43

The above pictures relate only to the average monthly figures Daily temperatures often differ from the above average records However, a few points may be mentioned here regarding the variation in temperature In Darjeeling, every year temperature goes below the freezing point and in certain years snowfall takes place In Kalimpong, the minimum temperature approaches the freezing point In Jalpaiguri also the winter is very severe but temperature does not reach the freezing point Every summer, Calcutta records maximum temperature above 100°F At times, specially in the month of May, maximum temperature at Calcutta exceeds 110°F At times, Midnapore, Berhampur, Krishnagore, Burdwan and Malda record even 115°F and Asansol records even as high as 117°F During winter, specially with the advent of the cold waves, the minimum temperature goes below 50°F in plains also

44

Table 5 5 shows the average monthly relative humidity (per cent) recorded at 11 stations This table also gives only the average picture and there is quite a variation in actual daily records of relative humidity at these places However, this table shows that on the whole the air remains very humid throughout the year When in summer hot winds blow from the west, temperature rises but during this spell of hotness the air remains little humid (even as low as 10%) But in other times humidity is quite high During rainy season the air remains highly humid (may even exceed 95%) Due to high temperature and relative humidity many a sweltering day marks the characteristic of summer and rainy seasons Winter is the driest season In winter, at times relative humidity is less than 10%

45

Tables 5 1(a) to 5 1(g) show the districtwise monthly rainfall for the years 1947-48 to 1952-53 Table 5 2 shows the average districtwise monthly rainfall in the different districts

46

Table B shows the average picture of distribution of rainfall (as percentage to total annual rainfall) during different periods of the year It shows that roughly speaking all districts receive less than 2 per cent of total annual rainfall during the months January and February During the months of March to May, when nor'wester showers are available, the rainfall increases During these 3 months 10 to 18 per cent of annual rainfall is received in different districts Between the months of June to October, i e , during the monsoon period, some 80 per cent. of total annual rainfall

is received The remaining rainfall is received during the other two months, i e , in November and December It is obvious that when 80 per cent of the annual rainfall is received during 5 months time, the distribution of rainfall cannot be considered to be uniform.

47

As far as the rainfall during the four winter months, i e , November to February is in concern, it is seen that November and December get more rains than the other two months January and February, as has been stated earlier, on an average receive some 2 per cent of annual rainfall, whereas the coastal districts like Midnapore (4 7 per cent), Hooghly (3 9 per cent), Howrah (3 8 per cent) and 24-Parganas (3 6 per cent) receive more than 2″ of rainfall during November and December During the period Bankura receives 2 7 per cent , Nadia 2 6 per cent , Burdwan 2 2 per cent , Murshidabad 2.0 per cent and Birbhum 1 9 per cent of annual rainfall

TABLE B

Average percentage distribution of rainfall

Districts	Rainfall in January-February		Rainfall in March May		Rainfall in June-October		Rainfall in November-December	
	In inches	Percentage of annual rainfall	In inches	Percentage of annual rainfall	In inches	Percentage of annual rainfall	In inches	Percentage of annual rainfall
24 Parganas	0 97	1 5	8 82	13 8	51 92	81 2	2 27	3 6
Nadia	0 57	1 0	8 67	15·1	46 60	81 3	1·49	2 6
Murshidabad	0 49	1 0	6 21	12 2	43 19	84 8	1 02	2 0
Burdwan	0 65	1 3	6 78	13 6	41 32	82 0	1 13	2 2
Birbhum	0 46	0 9	5 03	10 8	40 47	86 4	0 90	1 9
Bankura	0 54	1 1	6 70	13 4	41 48	82 8	1 35	2 7
Midnapore	1 10	1 9	7 91	13 6	46 46	79 8	2 70	4 7
Hooghly	0 79	1 3	10 82	17 6	47 54	77 2	2 41	3 9
Howrah	0 72	1 0	10 89	14 4	60 64	80 8	2 83	3 8
Jalpaiguri	0 75	0 5	29 15	18 6	125 25	80 2	1 07	0 7
Darjeeling	0 64	0 5	16 62	12 1	118 35	86 8	0 80	0 6
Malda	0 54	0 8	6 18	10 1	53 75	88 1	0 61	1 0
West Dinajpur	0 80	1 2	8 67	12 4	59 30	85 5	0 64	0 9
Cooch Behar	0 58	0 5	20 80	18 5	90 17	80 4	0 73	0 6

48

Districts of Jalpaiguri (1 2 per cent), Darjeeling (1 1 per cent), Malda (1 8 per cent), West Dinajpur (2 1 per cent) and Cooch Behar (1 1 per cent) got very little rainfall during November to February

49

Table ! 2 shows that on an average Jalpaiguri receives maximum annual rainfall (156 22″) Next to it comes Darjeeling (136 41″) followed by Cooch Behar (112 28″), Howrah (75 08″), West Dinajpur (69 41″), 24-Parganas (63 98″), Hooghly (61 56″) Malda (61 08″) Midnapore (58 17″), Nadia (57 33″), Murshidabad (50 91″), Bankura (50 07″), Burdwan (49 88″) and Birbhum (46 86″) This shows clearly that rainfall is not received uniformly throughout the State The variation in rainfall between the northern districts, i e Jalpaiguri, Darjeeling and Cooch Behar and the remaining southern districts is remark ble

50

The actual maximum and minimum average rainfall in the different districts between the years 1947 and 1953 has been presented in Table C It shows that though 7 years are not a long period yet the fluctuation in rainfall is quite striking for all the districts Data for Cooch Behar district are available since 1950 and perhaps, that is why the difference between maximum and minimum rainfall has come out to be only 4 04″ The difference has been noted highest in Jalpaiguri district (69 15″) Next to it comes Darjeeling (51 04″) followed by Nadia (46 10″), Malda (45 62″), West Dinajpur (41 94″), Howrah (34 92″), Hooghly (30 15″), Birbhum (27 16″), 24-Parganas (23 57″), Midnapore (22 01″), Bankura (17 83″), Murshidabad (18 69″) and Burdwan (11 38″)

51.

This table shows further the actual maximum and minimum rainfall recorded during these 7 years for the periods January-February, March to May, June to October and November-December As little rainfall is received during January and February, the difference has not in any case been very wide But, considering months of November to February as one period, it is seen that the difference was more than 10″ in 24-Parganas, Howrah, Hooghly and Midnapur The difference in Howrah has been as high as 14 16″ Compared to January and February, differences between maximum and minimum rainfall have been greater for the months of November and December During the periods of nor'wester and monsoon showers, the differences have been very wide

52

Table C obviously shows the nature of irregular distribution of rainfall in this State As a district, Birbhum received lowest annual rainfall (34 51″) The minimum rainfall received in other districts were higher Actually, as agriculture does not depend only on the total annual rainfall but also on the nature of distribution of rainfall, such irregularities cannot but affect the agriculture of the State

53

Table D shows the districtwise monthly average number of rainy days in West Bengal This table shows that only one or two days during the months of January and February receive 0 1″ or more of rainfall within 24 hours During the months of March to May, number of rainy days vary between 5 to 22 in the different districts Generally speaking, May has more rainy days than March and April During the months June to August, all districts, on average, have more than 9 rainy days in each month During September, it is not less than 8 and in October, it further goes down November also enjoys 1 to 3 rainy days but in December there is rarely a rainy day

54

The above discussion, somewhat in a general way, outlines the nature of rainfall, temperature and relative humidity of the State and why it is said that perhaps weather conditions constitute the major single factor that controls the agriculture and crop production of the State This chapter also suggests how the prevailing weather conditions (specially non-uniform rainfall distribution) with reference to requirements of different crops go to divide a year into distinct cropping periods

TABLE C

Variation in actual rainfall during 1947 to 1953(†)

Districts.	Annual rainfall.		January-February		March May		June-October		November-December	
	Maximum.	Minimum.	Maximum	Minimum.	Maximum.	Minimum.	Maximum	Minimum.	Maximum	Minimum.
24-Parganas ..	75·95	52 38	3 48(4 6%)	Nil	16 08(22 9%)	3 54(6 2%)	55 80(73 5%)	44 80(85 5%)	7 03(10 4%)	0 01
Nadia .	87 16	41 06	1 69(1 9%)	Nil	12 91(21%)	4 62(11 3%)	79 17(90 9%)	32 69(71 7%)	3 52(5 8%)	Nil
Murshidabad	56 19	37 50	1 95(3 5%)	Nil	11 70(21 7%)	2 44(4 4%)	51 25(91 7%)	31 96(85 3%)	3 15(5 6%)	0 18(0 3%)
Burdwan .	54 15	42 77	1 88(3 5%)	Nil	14 66(27 0%)	3 32(6 3%)	46 52(87 3%)	34 27(71 7%)	2 74(5 7%)	Nil
Birbhum	61 77	34 51	1 63(3 2%)	0 06	12 96(21 0%)	2 30(4 6%)	48 48(78 5%)	30 97(89 8%)	3 68(7 6%)	Nil
Bankura	59 69	41 86	1 49(3 1%)	Nil.	11 78(22 5%)	1 78(3 6%)	51 83(86 8%)	35 51(84 8%)	3 18(6 2%)	Nil
Midnapore	68 90	46 89	3 37(5 4%)	Nil	12 82(22 6%)	4 24(6 6%)	56 45(88 6%)	37 08(79 1%)	6 79(9 8%)	0 03(0·1%)
Hooghly	83 20	52 75	3 03(4 5%)	Nil	25 71(30 9%)	5 12(8 6%)	57 29(68 8%)	41 66(79 0%)	7 83(12 4%)	Nil
Howrah	90 61	55 69	3 21(4 0%)	Nil	21 47(24 3%)	5 20(9 3%)	71 02(78 5%)	48 70(87 4%)	10 95(12 1%)	Nil
Jalpaiguri	187 86	118 71	1 54(0 9%)	0 06	43 05(22 9%)	17 49(14·8%)	141 51(75 4%)	93 78(76 8%)	3 43(2 1%)	Nil
Darjeeling	160 27	109 23	1 43(0 9%)	0 9(0 1%)	23 59(15 4%)	9 50(6 9%)	145 90(91 1%)	94 68(86 7%)	3 05(2 5%)	Nil
Malda	84 33	39 01	1 83(2 2%)	0 01	14 57(24 2%)	1 34(2 4%)	75 98(90 0%)	35 83(91 9%)	2 35(4 3%)	Nil
West Dinajpur .	91 40	49 46	2 18(2 8%)	Nil	18 15(19 9%)	3 51(5 4%)	71 81(78 6%)	43 17(87 3%)	2 56(4 3%)	Nil.
Cooch Behar (*)	114 33	110 29	0 95(0 9%)	0 03	35 75(31 2%)	13 02(11 8%)	97 58(85 4%)	76 10(66 8%)	1 58(1 4%)	0·02

(*) Data available from the year 1950

(†) Percentages with reference to the total annual rainfall of the district for the year quoted.

TABLE D

Monthly average number of rainy days in West Bengal

(Average of the years 1950—1954)

Districts.	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
24-Parganas . ..	0 49	0 45	1 78	1 73	4 98	11 55	15 27	13 55	12 26	6 38	2 05	0 50	70·99
Nadia	0 40	0 67	1 37	1 73	5 33	13 17	16 37	15 17	10 97	6 50	1 73	0 30	73·71
Murshidabad	0 88	0 43	1 05	1 85	4 36	11 54	14 76	13 47	8 53	4 77	1 18	0 07	62·69
Burdwan ..	0 60	0 70	1·22	1 54	5 46	10 57	13 42	14 04	8 76	4 89	0 93	0·16	62 29
Birbhum	0 68	0 42	0 90	1 61	4 19	10 63	14 54	13 96	8·64	4 44	0 92	0 20	61 13
Bankura	0 54	0·39	1 12	1 45	4 67	9 85	15 03	14 27	9 24	3 82	1 21	0 21	61·80
Midnapore . ..	0 50	0 52	2 14	2 13	5 15	11 10	14 02	14 24	10 64	5 39	1 74	0 36	67 93
Hooghly . .	0 60	0 48	2 21	2 07	4 87	9 92	14 01	13 70	10 31	5 20	1 65	0 26	65·28
Howrah . .	0·70	0 40	2 00	2 30	3 59	11 10	11 80	17 70	13 10	6 10	2 00	0 00	70·79
Jalpaiguri . ..	0 57	0 72	3·88	6 27	15 50	19 78	21 62	17 81	15 26	7·17	0 86	0 50	109 94
Darjeeling	0 83	1 13	4 05	5 03	12 54	20 29	25 34	22 53	16 54	4 38	0·87	0 02	113·55
Malda	0 87	0 40	1 13	1 27	3 83	11 17	15 45	12 69	10·84	3 14	0·48	0 07	61·34
West Dinajpur	0 60	0 28	1·47	1 37	6 02	12 73	14 45	11 55	9 40	2·85	0·47	0·00	61·19
Cooch Behar	0 69	0 98	2 80	5 04	15 10	18 62	20 77	15 40	13 53	6 01	2 59	0 01	101·54





Sheet erosion has made the lands quite poor The lands can hardly grow crops now Grazing buffaloes are in search of patches of grass that grow here and there and still try to protect the top soil from being washed away



Riverside gully The bank is being gradually eaten away



Roadside gully



Near Naihati, a char has risen on the Bhagirathi It is old enough to have small perennial trees on it. This little island is used for cultivation also



View of the Hooghly near Diamond Harbour The border line of Midnapur district can be seen as a thin line on the distant bank The bottom of the picture shows the embankment This embankment protects a large area in 24-Parganas from being flooded



The Saraswati trickles in summer It is difficult to imagine that the river once was famous as a navigation route

CHAPTER VI

(Irrigation and drainage)

1

Plants need water Soil supplies required water to plants from reserves on the top soil and ground water (some moisture, of course, is taken from air) But if water table is too high, generally big trees cannot thrive well due to several reasons like lack of strong grip on the soil With water standing on the soil, many crops cannot grow But, except in few areas, water table is not too high in all seasons in the State As such, with adequate and timely showers (or irrigation) crop can grow well in the State

If the water table is not too low, plants can raise moisture from the ground water to their roots This explains how apparently dry lands retain green covers Generally speaking, a plant will have a deeper root system if grown in dry areas though the same plant may have a shallow root system when grown in moist and fertile soil Of course, every crop has a limit on either side Big trees send their root systems deep down both for achieving stability and getting adequate water supply

3

Rainfall regulates agriculture of the State With onset of the Nor'wester showers, cultivation of kharif crops like Jute and Aus starts Then Monsoon showers set in These showers act actually as the very backbone of the prospect of agriculture in the State With these showers, cultivation of Aman paddy, by far the most important crop of the State, is linked up Standing crops like Jute and Aus thrive on it But experience shows that rainfall itself is not regular It may be early, timely or late It may be excessive, adequate or scanty In fact, timely and adequate showers occur rarely A favourable year generally turns out to be a year of bumper production But vagaries of the monsoon often oddly affect agriculture Almost each year, some area or other has poorly grown crops It is also not uncommon to have excessive rains and floods visiting some districts when some other districts are suffering from prolonged droughty conditions It seems to be a crude irony One part of the State, which is far from being a gigantic one in size, cries for some water when other parts pray to be saved from being washed out In such years, each part suffers, but in their own way

4.

In fact, in West Bengal drought rarely means complete failure of rainfall It means either want of rainfall in time or want of adequate rainfall Actually speaking, the term drought is mostly used in such restricted sense Yet, money values of damages caused by droughty conditions very often exceed those of damages due to floods Perhaps, it will not be completely wrong, if it is stated that a year with adverse weather conditions (specially, abnormal monsoon) may produce such adverse effects on crops that other measures (like manuring, use of better seeds, etc) singly or even all taken together can hardly out-weigh or even balance.

5

Devastating and widespread floods of the Damodar have, to a great extent, been controlled Kangsabati project will mean another such promise The Mayurakshi project has also not been able to stop the floods altogether but has brought some control over them The rivers of the northern portion of the State still lie untamed and each year they cause floods Floods, at least usually, affect limited areas and crops of all such affected areas are not completely lost. At times, after the recession of floods, retransplantation takes place in many areas and thus the loss is recovered to some extent Actually speaking, floods do not always inflict damages. Floods flush the lands and rejuvenate them Silt deposition brings richness to the lands Standing crops with flood flushing often thrives on very luxuriantly. Under the Ganga-Barrage scheme, it has been proposed to arrange for flood-flushing the poor lands.

6

As it has not yet been possible to squeeze out desired showers from the clouds for supplementing natural rainfall, the State has to look forward to artificial irrigation by exploiting rivers, canals, tanks, beels, etc and underground water (by boring-wells, pumps, etc) ([1])

Western portion of the Presidency Division has lower water table and lesser rainfall and as such badly needs irrigation facilities

8

Irrigation involves expenditure Apart from that, execessive application of water is not helpful Need of water is great for agriculture and other purposes So, if possible by avoiding wastages, water should be kept in reserve As such irrigation is given so that the soil gets sufficient moisture and water is not wasted It is obvious that the time, frequency and dose (usually dose of water is expressed in terms of "inches per acre" and the total volume of water consumed is expressed in terms of "acre inches") of irrigation varies from place to place, from crop to crop and from season to season Areas with moderate rainfall can grow crops like Aman, Aus, Jute and some Rabi crops without irrigation Uncontrolled flood irrigation, specially in areas with well developed terraces, does not bring equally higher yield rates at all levels In years with even ordinary rainfall, low lands need lesser (or no) irrigation than higher lands Though the limits obviously cannot be exactly demarcated, it may be said that want of water is harmful and at the same time excess of water may also bring harm (depends on crop, soil, slope of land, water table, etc) As such, controlled irrigation can only be expected to produce desired effects on crop production ([2])

9

As has already been discussed in the Chapter IV, water holding power of all types of soil is not same Sandy soils are light enough to grow many crops very well but irrigation has to be arranged for in most cases at least for ensuring the production Temperature, relative humidity, available amount of Solar energy, etc , also go to influence the crops But they are left aside from the contents of discussion of this booklet The discussion leads into the sphere of plant physiology

([1])When rivers, canals, tanks, wells, etc , in turn depend on water received from rainfall, such arrangement cannot assure irrigation under extreme conditions

([2])With reference to available rainfall it may be said that generally for Bhadoi and Kharif crops and Aman paddy, artificial irrigation should be considered as a protective measure, kept ready for emergency It, in no way, lowers the importance of irrigation schemes but only suggests that irrigation programme must be broad based, specially, when it can play a great role in production of Rabi crops and adoption of crop rotation with 2 to 3 crops a year.

TABLE A

Net area irrigated in West Bengal

Year	Area irrigated during the year from (*)						Net area sown (*)	Column (7) as percentage to column (8)	Total cropped area (*)	Column (7) as percentage to column (10)	Area sown more than once (*)
	Government canals	Private canals	Tanks	Wells	Other sources	Total					
1	2	3	4	5	6	7	8	9	10	11	12
1946-47(†)	278 8	143 1	998 7	15 7	403 4	1,839 7	11,223 7	16 4	12,762 8	14 4	1,539 1
1947 48(†)	277 4	223 3	942 2	9 0	604 1	2,056 0	11,341 5	18 1	12,722 6	16 2	1,381 1
1948 49(†)	280 8	241 0	879 7	22 6	468 3	1,892 4	11,226 6	16 8	12,564 1	15 1	1,337 5
1949-50	279 0	303 8	1,035 5	30 6	680 4	2,329 3	11,720 2	19 9	13,011 0	17 9	1,290 8
1950-51	258 9	431 5	1,041 7	31 0	683 3	2,446 4	11,730 0	20 8	13,234 2	18 5	1,504 2
1951 52	421 0	699 1	938 7	30 0	701 9	2,790 7	11,655 5	23 9	13,292 9	21·0	1,637 4
1952-53	309 2	857 3	839 5	37 8	576 4	2,620 2	12,139 4	21 6	14,044 6	18 6	1,905 2
1953-54	315 5	891 5	858 2	37 9	553 2	2,656 3	12,297 5	21 6	14,308 2	18 6	2,010 7
1954-55	425 1	849 4	729 5	35 5	464 8	2,504 3	11,900 7	21 0	13,785 8	18 2	1,885 1
1955-56											
1956-57										.	.

(*)Actual area in thousand acres (†)Excluding Cooch Behar

10
Experiments suggest that summer paddy, transplanted during cold month of December, gives higher yield than those transplanted near or after the end of January Aman paddy, with even fertilizers and irrigation, does not come into flowers in cold months It is known that without solar energy, generally crops cannot thrive Plants that grow in high altitudes of the Himalayas cannot thrive in lower altitudes Again, crops of plains gradually disappear with increase in altitude

11
In view of this, zones with reference to the soils only are not sufficient for agricultural purpose, soil-climatic zones are usually being taken into consideration

12
Usually, the winter crops that are grown in the State, need and do well with some irrigation In northern districts, at places, potato and such crops are cultivated without any irrigation Paddy cannot thrive without standing water (more or less) Extent of area under paddy in the State will suggest how much land has to be kept under standing water When such a procedure can be adopted mainly from available rainfall, it is natural that certain areas will badly need drainage facilities and in fact drainage presents a great problem before the State

13
In table A above, the column (7) shows that gradually more and more lands are being irrigated but the increase is not steady Details of fluctuations in irrigated area can be studied from the columns (2) to (6) 2 59 lakh acres were irrigated from Government canals in 1950-51, 4 21 lakh acres in 1951-52 and 3 09 lakh acres in 1952-53 The sudden increase was mainly due to availability of water from the Mayurakshi canals and prevailing bad weather conditions The decrease was again due to the fact that in 1952-53, weather conditions were on the whole good and cultivators did not avail of irrigation facilities Behind such feelings lie the fact that irrigation with water from the Government canals involves water tax Cultivators being generally poor do not mostly want to use water from Government canals unless weather conditions are extremely adverse With the development in irrigation facilities, clear ideas about utility and scope of irrigation will evolve gradually Till then, the irrigation facilities cannot produce optimum effects

14
Area irrigated from private canals is increasing mostly because for such irrigation, one has not to pay taxes Generally, such projects are undertaken with partial Government aids and the labour or contributions of the cultivators

15
Tanks generally thrive on rain water and as such, if one year rainfall is inadequate, next year tanks have little water Thus tanks have great limitations Wells irrigate small areas Many tanks are small and have not well bound edges Such tanks, if not properly cared for, do not remain useful for long Well excavated big tanks, beels, etc , serve for many years but many such tanks and beels that were excavated long ago now require renovation Tank and well irrigation involves cost of lifting and water supply is meagre In the following lines, the position of irrigation in the different districts during 1947-48 to 1952-53 with reference to different sources of irrigation is given briefly It must be mentioned that modest arrangements regarding irrigation and drainage do not last long If left to themselves, in a few years time, they mostly become useless

16
Government canals —During 6 years, benefited area increased gradually in Burdwan but the increase has been only some 15 thousand acres On an average, Birbhum used to get irrigation only in some 9 to 10 thousand acres but in 1951-52 it was 1 18 lakh acres due to some water available from the Mayurakshi project In this year, Murshidabad received irrigation from the Government canals only in 3 3 thousand acres During last two years, Darjeeling has been getting irrigation in some 2 thousand acres of land For the last three years, Jalpaiguri has been getting irrigation in 9 to 12 thousand acres

17
Burdwan, Birbhum and Midnapore are the districts that get most of the benefit of irrigation from Government canals

18
Private canals —During these six years, in 24-Parganas, the benefited area came up from 7 4 thousand to 82 7 thousand acres, in Murshidabad from 5 4 thousand to 35 0 thousand acres, in Burdwan from 500 acres to 50 0 thousand acres, in Birbhum 4 9 thousand to 36 5 thousand acres, in Bankura from 26 0 thousand to 60 0 thousand acres, in Midnapore from 71 0 thousand to 3 00 lakh acres, in Hooghly from 1 4 thousand to 66 5 thousand acres (1 4 thousand acres is lowest estimate for Hooghly and refers to 1948-49, in 1947-48 it was 6 02 thousand acres), in Howrah 1 8 thousand to 34 8 thousand acres (1 8 thousand acres is lowest estimate for Howrah and it refers to 1949-50, in 1947-48 it was 2 00 thousand acres) and in Jalpaiguri from 1 0 lakh to 1 48 lakh acres

19
By 1952-53, the area benefited in Nadia came out to be 6 5 thousand acres (it was 200 acres in 1948-49) Starting from 1949-50 with 600 acres

in Darjeeling, the benefited area rose to 2 7 thousand acres by 1952-53. Between 1950-51 and 1952-53, in West Dinajpur the area irrigated by private canals increased from 7.0 thousand to 17 4 thousand acres During 1951-52 and 1952-53, Malda had some 10 0 thousand acres and in 1952-53, Cooch Behar had some 7 0 thousand acres of land irrigated by private canals

20

Midnapore, Jalpaiguri, 24-Parganas, Hooghly and Burdwan districts cover some 75 per cent of area irrigated by private canals

21

Tanks —Extent of area irrigated from tanks has not been progressive, it may be said to have remained almost steady during the current years

22.

Murshidabad, Burdwan, Birbhum, Bankura and Midnapore depend much on tank irrigation.

23.

Wells —Wells are cheaper to excavate and maintain than tanks Well irrigation is often practised more widely in Burdwan, Bankura, Midnapore and Jalpaiguri than other districts

24

Apart from these sources, underground water (with pumps), river water, etc , are also used for irrigation purposes. However, running of pumps, lifting of river water, etc , involve expenditure. But pumps bring water to areas lying far from rivers and big tanks even during prolonged droughty periods Up to June 1956, 1,249 pumps have been distributed by the Government. Private individuals also procured some pumps

TABLE B

Net area irrigated as percentage to net area sown

District	1947-48	1048 49	1940-50	1950 51	1951 52	1952-53	1953-54.	1954-55	1955-56	1956-57.
24 Parganas	1 2	1 2	2 4	3 4	5 9	6 3	6 8	6·6	..	..
Nadia	0 3	0 4	1 2	1 0	1 6	1 8	1 6	1 7		..
Murshidabad	15 9	15 8	15 6	15 6	18 0	15 5	15 9	14 6		..
Burdwan	27 2	28 0	27 4	29 6	36 1	34 6	33 7	33 9		..
Birbhum	42 0	41 4	65 6	65 0	69 5	45 4	44 6	48 6	.	..
Bankura	48 1	36 7	48 8	45 0	56 7	36 8	37 1	35·2	..	..
Midnapore	26 4	21 4	24 2	24 4	30 7	20 8	30 4	28 2	.	..
Hooghly	14 5	13 9	13 8	20 4	25 0	30 0	32 3	28 8		..
Howrah	2 3	2 2	1 9	4 5	12 4	19 8	22·1	19 6	..	..
Jalpaiguri	15 3	16 3	18 6	21 0	21 1	24 9	24 4	25 1	..	..
Darjeeling	24 6	22 3	30 8	31 5	32 4	24 8	20 9	24 2	..	..
Malda	0 7	1 5	1 9	2 0	2 5	3 5	3 ɒ	4 4	..	..
West Dinajpur	1 0	1 1	1 1	2 2	3 1	4 3	4 6	5 5	..	..
Cooch Behar	(a)	(a)	3 7	2 3	3 1	4 7	4 7	5 4	..	..
West Bengal	18 1	16 8	19 9	20 9	23 9	21 6	21 6	21 0	..	..

(a) Cooch Behar was not within West Bengal.

TABLE C

Crops Irrigated in West Bengal (*)

Year	Rice	Wheat.	Barley	Maize	Other cereals and pulses	Sugarcane	Other food crops.	Non-food crops	Total.
1	2	3	4	5	6	7	8	9	10
1946-47†	1,714 5	16 8	2 2	6 8	59 3	34 7	48 8	11 4	1,894 5
1947 48†	1,908 8	15 9	3 7	5 0	77 5	43 6	20 9	6 3	2,081·7
1948-49†	1,847 0	13 9	2 0	3 9	42 1	37 0	26 9	3 7	1,976·5
1949 50	2,197 9	18 9	3 5	10 0	51 9	33 4	62 1	25 4	2,403 1
1950-51	2,271 4	25 7	2 7	9 6	57 9	26 7	75 0	23 9	2,492 9
1951-52	2,591 9	30 7	2 4	24 2	69 0	28 1	105 7	23 6	2,875 6
1952-53	2,428 3	36 5	3 9	10 1	71 4	28 1	103 4	26 6	2,708 3
1953 54	2,416 9	39 2	2 4	9 9	89 8	26 0	159 1	27 8	2,771 1
1954 55	2,258 9	39 1	3 0	10 7	85 9	21 8	127 8	29 0	2,576·2
1955-56		..	..	..	..	..	..	.	..
1956-57	.	..	..	..	..	..	..	..	..

(*) Area in thousand acres. (†) Excluding Cooch Behar.

TABLE D

Irrigated area under different crops as percentage to corresponding total area sown with the crop

Year	Rice.	Wheat.	Barley	Maize.	Other cereals and pulses	Sugarcane	Other food crops	Non-food crops	Total crops—food and non-food.
1946-47†	17 6	16 6	3 7	6 8	8 1	57·0	4 1	1·5	14·8
1947-48†	20 4	18 9	6 4	5 7	5 7	69 1	2 3	0 8	16·4
1948-49†	20 2	15 8	3 5	4 4	3 2	56 3	2 9	0 4	15 7
1949 50	22 5	21 3	4 9	8 6	3·8	58 1	15 3	2 3	18 5
1950-51	23 2	20 6	3 6	10 2	3 4	50 8	18·4	2 4	18·8
1951-52	27 3	23 6	2 2	23 5	4 6	60 7	25 7	1 6	21 6
1952-53	23 8	34 3	5 3	8 9	4 5	53·7	25 5	1·8	19 3
1953-54	22 9	29 4	1 9	8 6	5 2	55 4	33 6	2·5	19·4
1954-55	23 0	27 7	2 8	9 1	4 8	38·4	28 5	2·3	18·7
1955-56							.	..	..
1956-57						..	.	..	..

(†) Excluding Cooch Behar.

As area under rice in West Bengal is very large, nearly some 25 per cent of it gets irrigation though roughly 90 per cent of net irrigated area is under rice Irrigation received by surgarcane shows an important feature Area under surgarcane is not large but more than half of it receives irrigation

Position of irrigation for wheat is gradually improving Other food crops (including potato) are also getting better irrigation facilities.

25.
According to Livestock Census, 1951, there were 1,151 pumps in the State

26
Of course, for using water from tanks, wells, etc , lifting charge has to be borne But when lifting can be done by human labour, often the cultivators themselves irrigate their plots and thereby reduce the actual cost of cultivation

27.
(According to Livestock Census, 1951, 300 Persian wheels, 260,600 dones and 350,100 other implements like Sheuti were being used in the State)

28
Table B shows that the position of irrigation in Birbhum, Burdwan, Bankura, Midnapore, Hooghly, Darjeeling, Jalpaiguri and Howrah are comparatively better than in the other districts Fluctuations in figures of percentage estimates are due to changes in net cropped area and irrigated area Both of these greatly depend on prevailing weather conditions Taking together all types of irrigated areas, Midnapore has largest irrigated area followed by Burdwan, Birbhum, Bankura, Hooghly, Jalpaiguri, 24-Parganas and others

29
At present, as a district, Nadia has the smallest irrigated area Position in Malda, Cooch Behar and West Dinajpur is also not very bright

30
Table C shows the areas under different crops that receive irrigation It is remarkable that rice consumes some 90 per cent of the total irrigated area Some 99 per cent of the irrigated area is under food crops of which some 92 per cent is covered by cereal crops only Of course, in a State that uses 73 11 per cent of its total cropped area for growing rice and 77 45 per cent for growing food cereals, such features are not unexpected

31
The column (10) in Table C of the total irrigated area shows higher figures than corresponding figures of net irrigated area of column (7) of Table A Some irrigated areas are used for growing more than one crop So area under irrigated crop may exceed the net irrigated area

32
As far as irrigated rice is in concern (Table 6 1 to 6 6), between 1947-48 and 1952-53, the area of the rice fields that received irrigation, varied between 6 30 and 4 63 lakh acres in Midnapore, 5 23 and 3 14 lakh acres in Birbhum, 4 42 and 3 24 lakh acres in Bankura, 4 00 and 2 83 lakh acres in Burdwan, 1 71 and 1 40 lakh acres in Murshidabad, 1 61 and 1 00 lakh acres in Jalpaiguri, 1 54 lakh and 64 0 thousand acres in Hooghly, 87 0 and 2 5 thousand acres in 24-Parganas, 58 0 and 45 2 thousand acres in Darjeeling, 49 5 and 5 0 thousand acres in Howrah and between 23 0 and 5.0 thousand acres in Malda In Nadia, the irrigated rice area rose to 8 0 thousand acres from 300 acres and in West Dinajpur, it rose to 22 8 thousand acres In Cooch Behar, the picture remained almost unchanged

33
Coming to wheat, it is seen that Murshidabad, Birbhum, Bankura and Burdwan cover the major portion of the irrigated wheat fields In Howrah, Jalpaiguri and Cooch Behar, wheat is not provided with irrigation In other districts also, extent of irrigation in wheat fields is negligible

34.
Most of the irrigated maize fields are in Darjeeling, Jalpaiguri, Bankura and Birbhum In Malda, Cooch Behar, West Dinajpur, Howrah, Burdwan and Nadia, no irrigation arrangement is made for growing maize.

35
Burdwan, Birbhum, Murshidabad, Midnapore, Bankura, 24-Parganas, Hooghly and West Dinajpur cover almost whole of the irrigated sugarcane areas In Malda and Cooch Behar, irrigation facilities are not used for growing sugarcane

36
In case of other cereals and pulses, some 70 per cent of the corresponding irrigated area is in Midnapore Murshidabad, Burdwan, Bankura, Hooghly and 24-Parganas share the major volume of the remaining irrigated area.

37.
Nearly 70 per cent of the remaining irrigated area under other crops are within Burdwan, Hooghly and 24-Parganas

38
In the following paragraphs, general conditions of rainfall, floods, droughty conditions, etc , in the districts are briefly discussed

39
24-Parganas —Average annual rainfall—63 98 inches, number of rainy days—70 99

40
24-Parganas is a major agricultural district of the State The lower portion of the district receives more rain than the upper portion Actually, the southern portion is the coastal area and northern portion is fairly inland area (length of the district is some 130 miles) This, obviously, has some influence on local agriculture But, apart from unusual years, the rainfall is not scanty in the district

41
Lower thanas like Basirhat subdivision (Haroa, Hasnabad and Sandeshkhali Police Stations), Diamond Harbour subdivision (Kakdwip, Sagar and Mathurapur Police Stations) and Sadar subdivision (Bhangore, Canning and Joynagore Police Stations) are liable to inundation Some areas suffer from being inundated by saline water Lower areas of the district are being protected from tidal inrush of saline water with embankments (some 2,200 miles long) Lack of proper care allowed the embankments to become weak at places and breach along embankments flooded many areas But, with the implementation of Zamindary Abolition Act, the care of land is now a Governmental concern

42
Nadia —Average annual rainfall- -57 33 inches, number of rainy days—73 71

43
Agriculure of the district is almost entirely dependent on rainfall As such, when raintall is scanty or very late, the Kalantar tract suffers most, other areas also suffer more or less

44
Parts of Nakashipara, Kaligunge, Santipur, Chapra and Chakdah Police Stations are liable to inundation The banks of the Bhagirathi are being protected with embankments

45
No detailed irrigation system exists in the district But irrigation facilities can bring assured crop production and help in better land utilisation It is being planned to provide the district with tube-wells for irrigation

46.
Drainage problem is acute in certain areas Some local rivers and canals that used to carry on the work have been silted up They are being reconditioned gradually

47
Murshidabad.—Average annual rainfall—50 91 inches, number of rainy days—62 89

48
The eastern portion receives more rainfall than the western portion

49
Certain areas in the south of Kandi subdivision and adjoining portions of Berhampore subdivision, at time, get inundated by the swelling rivers like the Mayurakshi, Dwarka, etc But with the control introduced over the rivers with the help of the Mayurakshi project, they have lost much of their damaging power In the eastern portion of the Bhagirathi, the rivers like the Jalangi, Kharia, etc , also flood-flush certain areas, though not very often

50
Burdwan.—Average annual rainfall—49 88 inches, number of rainy days—62 29

51
The western portion of the district gets lesser shower than the eastern portion and the western portion has to suffer from shortage of rains

52
The Damodar caused devastating floods in the past The southern bank (mainly Katwa subdivision) of the Ajoy is liable to inundation The Kunar submerges some areas of Ausgram Police Station

Generally speaking, the district is well acquainted with floods

54
The D V C will bring irrigation facilities to this district But for many years, the district has been enjoying irrigation facilities from systems like Damodar canal and Eden canal They used to serve up to some 2 lakh acres of land The rivulets and bigger flows also provide with water for irrigation on banks Such net works provide with drainage facilities too

55
Hooghly.—Average annual rainfall—61 56 inches, number of rainy days—65 28

56
At times the north and north-western portions receive very scanty shower and suffer consequently

57
There are many rivers and tanks in the district But they are mostly not in good condition Rivers are poor, tanks are silted up Actually speaking, the spill-channels of the Damodar spread over the area Bad drainage was responsible for ill-health conditions (specially malaria)

58
However, though irrigation facilities exist, expansion and reconditioning of some of the existing ones will do much towards the progress and betterment of agriculture The district will be benefited when provided with irrigation facilities under the D V C project

59
The area lying between the Damodar and the Dwarkeswar has known floods well during past years

60
Howrah.—Average annual rainfall—75.08 inches, number of rainy days—70 79.

61
The district generally does not suffer from droughts

62
Except in a few small areas on the banks of the Damodar, floods generally do not visit Irrigation facilities are available

63
Bankura.—Average annual rainfall—50 07 inches, number of rainy days—61 80

64
Droughts affect crops frequently The district having at present little irrigation arrangements, has to depend almost completely on rainfall Vagaries of rainfall often play havoc with agriculture Irrigation is the crying need of the district The soil, in general, is poor and has not high water-holding capacity Small irrigation projects and canals like Palashani canal (Ranibandh Police Station), Chankra and Kailai canal (Simlapal Police Station), etc , serve small local areas But Kangsabati project is expected to bring new picture in the district Canals under the D V C Project passes through Indus and Patrasayer Police Stations

65
Excepting certain areas in Patrasayer and Sonamukhi Police Stations, generally, floods do not occur Drainage generally does not pose a serious problem except in certain low-lying areas

66
Irrigation canals have been excavated but they serve limited areas Tank and well irrigation is practised

67
Birbhum.—Average annual rainfall—46 86 inches, number of rainy days—61 13

68
As the soil is in general poor and has low water holding capacity, irrigation facilities are of great importance Droughts visit frequently When rainfall was not timely and adequate, lack of irrigation facilities brought in threat of crop failure

69
Bund and tank irrigation is practised But the whole picture of irrigation system has changed with completion of the Mayurakshi Project. Dubrajpur, Illambazar and Bolpur Police Stations in south, Nalhati and Murarai Police Stations in north receive partly irrigation facilities Other Police Stations excluding Khairasol and Rajnagar Police Stations receive irrigation facilities from the project

70
The swelling up of the Mayurakshi, Ajoy, etc , at times overflood certain areas

71
Midnapore.—Average annual rainfall—58 17 inches, number of rainy days—67 93.

72
Western and northern portions suffer frequently from droughts Jhargram subdivision badly suffers from lack of irrigation facilities

73
Eastern and southern portions have some irrigation facilities Tank irrigation is widely practised in the district The district produces 1/5th of total paddy of the State With expansion of irrigation facilities, the district can produce more

74.
The Cossye causes floods quite often, specially in Panskura Police Station The Keleghai submerges extensive areas under Narayangarh, Potashpur and Bhagabanpur Police Stations. The Silai submerges areas under Ghatal and Daspur Police Stations In fact, major portion of the eastern district is being threatened with inundation The embankments along the Cossye, Rupnarayan, Rasulpur, Haldi, etc, give protection against floods The Hijli tidal canal, Orissa coastal canal and Midnapore high level canal serve the eastern and southern areas of the district

75
Malda —Average annual rainfall—61 03 inches, number of rainy days—61 34

76
The Barind area suffers most from the droughts Some irrigation facilities, specially large number of tanks, are available Erection of bunds for irrigating low-lying areas for growing Boro (Summer) paddy is well in practice

77
At times, when water, drained out from north, swells up the rivers, they bring in floods Such floods deposit some silt but also damage crops Low-lying areas suffer from water logging

78
West Dinajpur —Average annual rainfall—69 41 inches, number of rainy days—61 19

79
Droughty conditions off and on interfere with the cultivation Some of the irrigation arrangements, specially a good number of tanks, provide with some facilities of irrigation Some of the tanks are very big and are known as dighis and beels Due to lack of care and maintenance, most of these old tanks lie in derelict condition Re-excavation of these tanks have been taken up When heavy water flow rushes down along the rivers, they swell up and cause floods over certain areas close to the banks Aus, Aman, Jute, etc, are rain-fed crops Available irrigation facilities, being far from adequate, crops on high lands suffer during dry years Again low areas suffer from floods of the rivers like the Mahananda, Tangon, Punarbhaba, Atrai, Jamuna, etc Drainage problem is quite serious in certain areas Some embankments and drainage channels are being constructed

80.
Jalpaiguri —Average annual rainfall—156 22 inches, number of rainy days—109 94

81
Generally due to available heavy precipitation irrigation arrangements are not needed essentially in all areas But for growing some crops, specially Aman paddy, certain rivers are used for irrigation purposes Little irrigation is provided for Rabi crops No remarkable scheme has been executed for arranging Rabi irrigation Some wells, generally shallow, are used for irrigating tobacco plots

82
Hill-born rivers rushing with the drain outs of the far extended Himalayan ranges (that at times gets heavy downpour for days together) cannot carry so much water in their beds In consequence, floods occur The flood waters also rush with great speed At times roads, railway lines, bridges, urban houses, etc, are shattered and washed away Such floods throw silt but deposition of sand spoil cultivated areas Embankments are necessary to protect lands from inundation and some of them are being constructed Some minor drainage schemes have been executed

83.
Darjeeling —Average annual rainfall—136 41 inches, number of rainy days—113 55

84
Apart from copious precipitation, innumerable water flows pass through Siliguri subdivision They provide with very helpful irrigation facilities

85
Irrigation, generally speaking, is not a big problem in the hilly areas Precipitation is copious Moreover, water is being conveyed from Jhoras and ravines by means of bamboo ducts or galvanised iron pipes to terraces for irrigation

86
But, perhaps, modification or renovation of the existing ducts may bring better facilities

87
The district, in general, is well drained Parts of Siliguri subdivision are flooded by the hill-born rivers during rainy season A few drainage schemes like Sukdela drainage scheme, Kawakhari drainage scheme, etc, have been executed to provide with drainage facilities

88
Cooch Behar —Average annual rainfall—112 28 inches, number of rainy days—104 54 With good precipitation available, generally irrigation facilities are rarely arranged Except for tobacco, irrigation is not applied generally

89
Hill-born rivers often cause flood over plains of the district The floods usually always bring some adverse effects along with though silt deposition bring some benefit also But, in spite of some good effects that they bring in, the floods damage crops and other properties

90
This district closely resembles the district of Jalpaiguri No major irrigation or drainage project has been taken up in the district

91
Irrigation facilities can ensure crop production even during droughty years Drainage facilities protect crops in time of excessive rainfall and floods Without proper irrigation facilities, it is hardly possible to grow two (or three) crops in a season from same lands In this State, where pressure on lands is so keen and where it is not possible to bring much extra lands further under agriculture, expansion of agriculture, obviously, depends greatly on the mode of greater exploitation of land A land used twice in a season may very well be considered as good as doubling the cropped area But it must be mentioned here that to utilize the limited available irrigation water and to fit in the cropping periods properly, the whole cropping pattern (or cropping programme) need be very carefully planned

92
Use of improved varieties of seeds, application of manures and fertilizers, improved technique of farming along with irrigation facilities present a bright feature The State is gradually having more area under double cropping

93
With completion of the network of canals, D V C project will arrange for irrigation in 10 26 lakh acres of land in the districts of Burdwan, Bankura, Hooghly and Howrah The network of canals under Mayurakshi project will bring irrigation to 6 lakh acres of land in Birbhum, Burdwan and Murshidabad districts Some other big projects (Chapter I) are being envisaged for future construction and others that have been

PART OF

WEST BENGAL

SHOWING THE COMMANDED AREAS OF
MOR , KANSABATI AND DAMODAR PROJECTS



LEGENDS

MAIN CANAL

BRANCH CANAL

COMMANDED AREAS

BARRAGE & WEIR

completed since partition (up to 1954-55) have provided some 6 18 lakh acres (Kharif and Rabi) with irrigation facilities and some 5 04 lakh acres with drainage facilities (Kharif and Rabi)

94
Apart from the big projects, many smaller projects have been completed and many others are expected to be executed in future Their contribution is also of considerable importance and significance Since 1948-49, some 3,400 small projects (up to 1954-55) have been completed on the whole They are meant to arrange for drainage and irrigation facilities to some 10 lakh acres Apart from these, pumps, re-excavated and newly excavated tanks also have provided with irrigation facilities over certain areas. Enterprise of private individuals is also contributing in the matter May be, they are strictly of local importance, none-the-less they are bringing good results. According to Census, 1951, there were 6,585 tube-wells, 55,112 ring wells, 16,659 masonry wells and 661,002 big and small tanks in the State

95
The State is under the process of construction. Age-old odds and needs are being tackled gradually under limited availability of money, raw material and equipments And still one progress is helping the other progresses to be realities This chain is developing fast and in consequence the manifold progress is bringing many changes over the face of the State In such a transitional phase, it is almost impossible to pick out the picture of state of condition at one time. It has to be revised constantly Generally speaking, the picture of the day is not the same as that of the past and the picture of the future will be different from that of today

CHAPTER VII

(Soil erosion and Forests)

1

The wind and water erode land, wherever and whenever they can The wind, if it can, will blow dust from the land and that is a kind of erosion Flowing water, if it can, will wash muds away from the land and that is another kind of erosion The creamy water of the rivers and canals, etc , only suggest the enormous erosion for which water flow may be held responsible

2

With or without human interference, wind and water go on eroding soil (and rocks too) but at times certain human activities make the lands more vulnerable to erosion With gradual increase in population, the land surface is to be exploited more and more Such exploitation often being reckless and inconsiderate, greatly affects the problem of preservation of soil wealth Roughly sepaking, some 26 per cent of the area of the State may be considered as "problem area" It suitably utilized, still a good part of it can be well used for producing crops of some kind or other but if left alone or mal-utilised further, the problem will only become more acute And it may be apprehended that subsequently it would almost be impossible to bring many such areas under useful operations and still worse, the erosion of these areas will, in turn, badly affect other areas too

3

The problem of erosion has two aspects, viz , process of erosion and process of deposition of eroded materials Where erosion takes place, there, the soil, being robbed of its wealth, gradually becomes poorer and poorer But often, places receiving deposition of eroded materials like silt are being greatly enriched therefrom But such deposition always do not remain beneficial The problem of river system of the State has a vital bearing on this Constant silting up of the beds tries to check the flows The port of Calcutta would have been much more useful and busy if the silt deposition had not been presenting a perpetual problem The decay of many lively rivers within a few decades have actually been possible due to unwanted heavy silt deposition in the river beds The rivers like Damodar, Ajoy, Mayurakshi, Tista, etc have considerably been chocked up with the sand that their own flow carried Once eroded materials get sufficiently deposited in a river bed, the decay of the river starts approaching The continuance of the deposition chokes up the course and the river becomes dead and deserted Death of a river badly affects the people who live on her banks and conditions of agriculture, health, etc , of her commanded area deteriorate Onrush of huge volume of water along shallow beds spread havocs of floods on banks The rivers of North Bengal have great destructive powers The river beds have been shallow with deposited sand and boulders These rivers have to carry enormous volume of water that comes as precipitation on the extended Himalayan region The shallow beds, incapable of accommodating this volume, cannot but bring floods every year The rushing flood waters spread silt but at places sands are being deposited Actually, this affects some agricultural lands too This is one part of the process

4

The rivers often erode out new areas to cut new courses This affects roads, agricultural lands and inhabitated areas To cite examples of such cases, it may be mentioned that Jalpaiguri town is being threatened by the Tista, Cooch Behar town by the Torsa Costly projects have to be taken up to protect these towns and such areas from the greedy erosion of the active rivers of North Bengal ([1])

5

Actually, the State has experienced many such losses Thus a slight consideration shows that the problem of soil erosion directly or indirectly goes on affecting the State

6

Lest erosion cause choking up of the dams, barrages and channels constructed under the D V C and Mayurakshi project, soil conservation work (i e , anti-soil erosion measure) have already been taken up In a State like West Bengal, which suffers due to erosion going on both inside and outside the State, cannot possibly ignore the perpetual threatening existence of the problem of soil erosion and its effects If proper steps were not taken in time, the dams and the barrages would have to face the fear of being silted up The clearance of such silt is perhaps most costly than the construction work itself

7

Of course, there is another aspect of the problem The silt that lies in the mouth of the Bay of Bengal moves inland with the tides Such ingression of slurry silt matter also leaves some deposition on the river beds and brings further complications However, this particular problem obviously affects only the rivers of lower portion of the State Most of the rivers of the State flow in from outside and the erosion, carried out in other States (mainly Bihar), affects the State

8

In western portion of Burdwan Division, in general the soil is poor, rainfall is scanty and land surface is undulating After January, till rains come, the area looks almost barren and remains coverless Specially, the up-lands have no covers in summer and as such, the occasional strong summer winds can remove portions of dried up top soil When rain, specially pre-monsoon heavy thunder showers come, the running water carries on sheet washing from the unprotected land If not cared for, it does not take much time to form deep gullies The gullies literally creep in and spread tentacles of gully system Actually, soil erosion, as a problem, is more acute in these areas than in other areas of the State The other areas receive fair amount of rainfall and have richer soil These help in having soil surface covered up with vegetation But yet, as has been stated earlier, areas under agricultural crops also suffer from erosion to some extent When the sun dries up the land surface, wind, if sufficiently strong, licks up some dust and this blowing dust is obviously eroded soil Though sheet washing is more common in these areas, gullies, however, are not completely unknown In Sundarban areas the high tidal rivers carry on constant alluvion and diluvion

9

In the hilly areas of the north, the erosion comes mainly in the form of land slides, big and small Old and new scar marks, left behind by the land slides, are common sights During rains some boulders slip down (rockfall) Sometimes, masses of rocks slide down Softer stones (like sand stones, shales, etc) are mainly responsible for such phenomenon But at times heaps of soil slip down The slips are quite common features in the area but fortunately, usually, they are not gigantic in magnitude

10

Apart from the slow and gradual erosion that produces slips, the rivers are also quite active in eroding the hill sides The eroded materials in turn are washed down to the plains by the flowing water

([1]) During the years 1954-55 and 1955-56, some 60,000 acres of cropped area in Northern West Bengal went out of cultivation due to sand deposited by the floods Depth of sand in such areas varried from 1′ to 3′

11
Some experiments were conducted (in preparation days) to measure the extent of erodibility of soil in Bengal It was found that the erosion varied between 20 to 111 tons of soil per acre per year ([2]) (Of course, the data refers to the experimental sites)

12
There is another type of erosion which mainly concerns the sandy coastal areas of Midnapore The coastal sand being dried up by the sun, is blown by the strong wind coming from sea. Such blown sand has participated in the formation of long ranges of sand hills (or sand dunes) Trees are now being planted to stop the erosion in the area

13
Ruthless and unsystematic felling of trees, mainly in the private forests and holdings, that continued for the last decades, has not only deteriorated the forests but also has exposed wide areas to the menace of erosion With increasing population, more area was needed to produce more food and other commodities but apart from such important reasons, the remunerative exploitation of the forests (mainly for firewood) also brought in the danger to a great extent In Burdwan and Birbhum districts, starting of mines, etc , required the clearing of the forests When recently Government wanted to take over the charges of the private forests, for the last time the owners availed the chance of exploiting the forests as much as they could It is apprehended that, actually, within the very short period of time, the State lost forest wealth that it would require quite a long time to get back

14
According to the views expressed by the experts, a State should maintain a forest area, covering not less than 25 per cent of its total area The State, taking all sorts of forests in view, has barely 13 13 per cent of its total area under forest cover It is obvious that area under forest should be increased further Apart from providing with many useful commodities, the forests have influence over the rainfall and weather conditions also Vegetation, particularly forest cover, helps reducing evaporation from the soil

15
The following table shows the present area under forests in the State (*)

Classes of forests	Area in acres and in sq miles	Area under column 2 as a percentage of total geographical area of the State (31,044 sq miles) Per cent.
1. Reserved forests	1,707,925 acres. (2,668 63 sq miles)	8 60
2. Protected forests ..	543 acres (0 85 sq mile)	
3 Other forests, classed or administered as forests under any legal enactment dealing with forests.	1,689,120 acres (2,639 26 sq miles)	8 50
4 Total of (1), (2) and (3) classes of forests.	3,397,588 acres (5,308 74 sq miles).	17 10
5. Unclassed State forests (forests under civil authorities, khas forests)	46,515 acres (72 68 sq miles)	0 23
6 Total forests (total of items 4 and 5)	3,444,103 acres (5,381 42 sq miles)	17 33
7 Unwooded area in item (4)	834,093 acres (1,303 27 sq miles)	4 20
8. Net area under forests excluding the unwooded area	2,610,019 acres (4,078 15 sq miles)	13·13

16.
For having 25 per cent of the total area of the State under forests distributed suitably over the State, some 7,800 sq miles should be available for forests This is a bold picture and Government have taken up the work of regeneration and further extending forest area in the different parts of the State Nearly 26 7 sq miles of waste land areas have been afforested in different districts A new project has been taken up for plantation of sisal trees (a kind of tree that yields very good fibre) in the State

17
Actually speaking, numerous kinds and types of trees are found in the forests Sal, Sishu, Gamar, Simul, Mahua, Babul, Kusma, Gamri, etc , are found in abundance The Sundarbans are specially known for the Sundri trees As altitude increases, the vegetation on the Himalayas changes from those of tropical to those of places having higher latitudes

18
Incidentally, it may be said that once the forests were full of wild life But ruthless killing of wild life, burning and clearing of forests have forced much of it to disappear from the forests of Burdwan Division But the forests of North West Bengal and Sundarbans have provided with quite a good shelter for them Spread of cultivation restricted the haunting grounds of the wild animals However, the establishment of the game sanctuaries in these areas has saved them from being extinct ([3])

19
Systematic afforestation fights against erosion and helps retaining the moisture in the soil and air It supplies many useful products like bamboo, cane, honey, wax, lac railway sleepers, timber, firewood, charcoal, fodder, many medicinal chemicals, tanning and dyeing stuff, wood pulp, etc Availability of such forest products helps a State in her developmental activities

Average annual outturn of forest produce during the quinquennium (1948-49 *to* 1952-53)(‡)

Particulars	Quantity		Value in rupees.
Special sleeper	7,956	(numbers)	2,53,919
Broad gauge sleeper	19,553	,,	3,56,266
Metre gauge sleeper	67,725	,,	5,10,741
Narrow gauge sleeper	6,286	,,	30,932
Timber (round)	58,070	(tons)	19,35,007
Timber (sawn)	4,800	,,	9,88,175
Sal ballies	12,416	(numbers)	53,408
Piles	141	(tons)	42,263
Firewood	1,756,393	,,	5,15,113
Charcoal	41,409	(maunds)	1,18,012
Bamboos	132,644	(numbers)	34,948
Cane	9,610	(loads)	12,681
Cane	2,563	(maunds)	1,725
Fodder			24,009
Thatch grass and Bena grass			21,542
Honey	5,057	(maunds)	38,722
Beeswax	1,548	,,	12,160
Khair	203	,,	80,478
Others			66,561
	Total		51,05,662

20
The above table gives an idea regarding forest products and their value This does not include the sale proceeds of the private owned forests

(*) *Source* —Directorate of Forests, West Bengal

([2]) Roughly speaking, the top 6′ of soil on one acre weighs 1,000 tons

([3]) It is estimated that at present there are some 60/70 great Indian rhinoceros in North Bengal Spotted deer, Indian Bison, wild buffalo, Sambar, swamp deer, hog deer, barking deer, elephant, Royal Bengal Tiger, panther, wild cats, Himalayan bear, Sloth bear, etc , and many kinds of game birds also thrive in the forests

Various kinds of snakes and reptiles like python, cobra, king cobra, crocodile, lizards also are found

(‡) *Source* Forestry in West Bengal.

This income from the forests, in view of the other utilities of forests, may very well be considered as side income.

21

But it may be mentioned that apart from regular afforestation, systematic tree planting also can serve some purpose As such, tree planting by private bodies and individuals cannot but be beneficial They go to add to the beauty of the locality also.

22

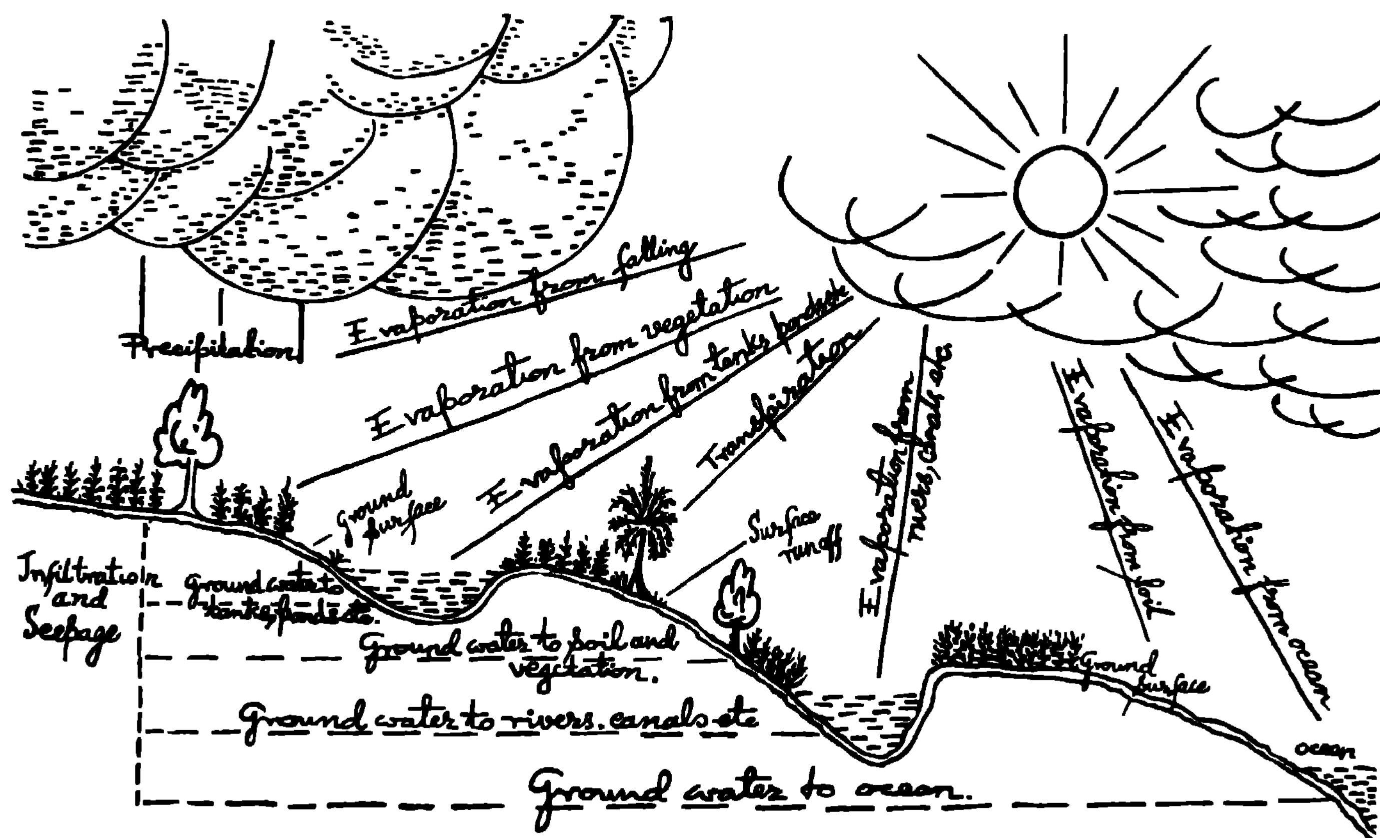
But planting of big trees cannot always protect the cropped fields For preserving the soil surface of agricultural lands, some suitable other methods also may be followed in view of the actual nature of the problem Trees, suitably standing near agricultural lands, resist the winds from blowing strongly across fields and help to protect lands Such belts of trees are known as wind breakers.

23

Thus, it has been realised that agriculture and forestry do not necessarily thrive at the expense of each other On the contrary, they have been found to be quite complementary to each other in the matter of land utilisation. If, in this State, the usual practice of keeping lands fallow could be avoided and lands were seasonally cropped more than once, some marginal lands might also have been used for afforestation and thus forest coverage might have been increased in view of its productive and protective utility Of course, apart from such extension of forests with greater emphasis, the lands, not suitable for agriculture work, can also be brought under forests And actually, some such action has been taken up on a moderate scale Lately, the national parks of different countries have become popular spots In West Bengal, issue of establishment of such a park is being considered

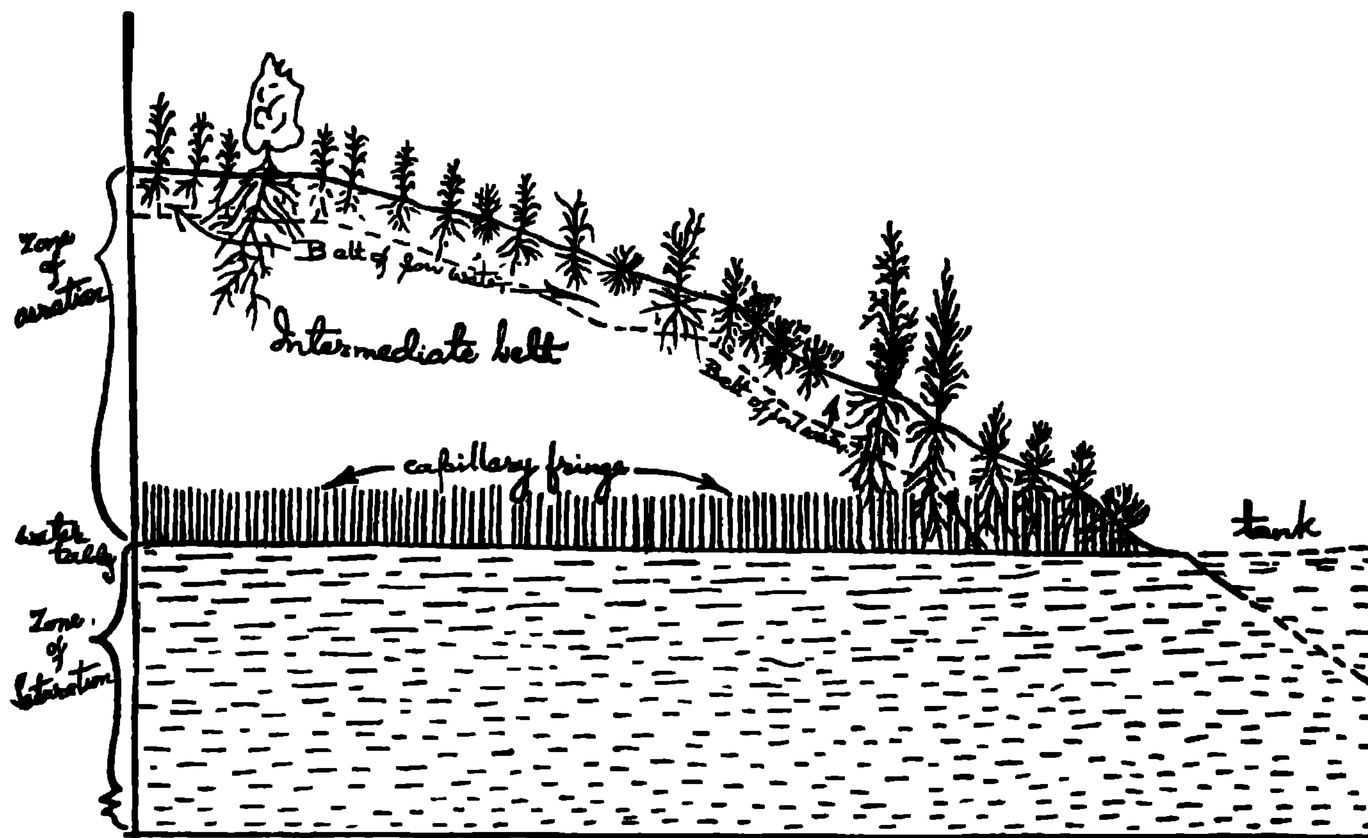
APPENDIX

A brief note on erosion



24

Air absorbs moisture from oceans, rivers, tanks, khals, beels, land surface, etc Vegetation releases some moisture to the air by a process known as transpiration Air laden with moisture sends some water back to the surface as precipitation Rain, snow, hail, dew, etc , all taken together constitute the precipitation phenomenon The precipitation that reaches the land gets absorbed by the soil This entrance of water within the soil is known as infiltration The water, that the upper layer of the soil retains, is known as suspended sub-surface water or soil water Extent of presence of soil water depends on the structure, slope and texture of the soil. It has been found that quantity of humus present in the soil greatly controls the water holding capacity After sometime, the upper layer of the soil cannot retain within (the upper layer) any more water with its limited water holding capacity Water trickles deeper within the soil This further downward journey of water is known as "percolation" Some water moves sidewise also. This lateral movement of water is known as "seepage" The water stored within the soil temporarily or for long period is known as the "ground water" The surface of ground water is of great importance and as such has been given the special name "water table" The water table may lie close to the belt of soil water or it may lie deeper down.



25
But when the rate of precipitation exceeds the rate of absorption infiltration and seepage, excess of water flows off along suitable channels This surficial flow is known as run off (of course run off includes outflow of ground water and deep seepage also) The rate of infiltration, etc, depends on the type of the soil cover (i e, nature of vegetation on surface), slope of the land, etc

26
The ground water acts as a big invisible source of water The depth of water table varies from place to place and from season to season In summer, the water table of places, lying not very close to the Bay of Bengal and big water sources, sinks down considerably During rains, the table comes up close to the surface It is a matter of common experience that holes dug in the ground collect some water But the depth required for getting such oozed water varies from season to season in a place And in the same season different depths are necessary to get such water in different places

27
Generally speaking, water table lies deeper in the western portion of the Presidency Division than in other portions

28
Actually speaking, life of vegetation on the soil depends greatly on the availability of the ground water During rainless days or protracted spell of drought ground water serves for maintenance of life If the ground water were not there, flowing rivers would have lost water due to infiltration and seepage The tanks beels, etc greatly thrive on receiving water from such underground sources Pumps also take out water from such underground reservoirs and make agriculture possible in areas long away from the rivers

29
If the rate of infiltration can somehow be increased, the rate of surficial run off will, obviously, get lowered or if the rate of surficial run off can be reduced, water gets more time to go within the soil Viewing from this angle, it may be said that a flood is nothing but an uncontrolled heavy surficial run off

30
It has been found that extremely dry soil is less capable of absorbing water than moist soil Soils, at times, cannot absorb water in appreciable quantities due to disturbance in the normal process of infiltration If the rate of run off is rapid, heavy showers also cannot even moisten the surface layers Apart from precipitation, water-flows, big water reserves, etc, also contribute to the reservation of water under soil But the level and nature, both physical and chemical, of ground water soil water etc, of a place are dependant on several complicated factors

31
Water-flows, if possible, carry on washing out of mud But apart from this, water dissolves salts (soluble in water) present in the soil and this does not always change the colour of the water. Due to the salts present in the water, when the water is used for irrigation, it may produce good or bad effects on the soil As for example, if some common salt gets deposited from saline water, a plot would become saline As far as agriculture is concerned, such unwanted salinity only means damage to the soil On the other hand, some unwanted chemicals may also get removed in form of solution A saline plot may be freed from salinity with repeated natural or artificial irrigation

32
When water percolates down, it takes out some soluble chemical substances of the soil alongwith This process of carrying down chemicals within the soil is known as leaching Thus, irrigation does not only bring moisture to the soil but it may also add or leach away some plant nutrients It may bring favourable or unfavourable reactions to the soil It influences the formation and the maintenance of the structure and texture of the soil

33
When water goes down, as already has been stated, it carries soil particles too Deposition of these fine particles at one or more depths within the soil forms horizon or horizons of layers known as clay pans of fine particles of soil At times, clay pans, spread out within the soil, are impervious Water finds it difficult to trickle down across such 'pans'

34
The nature and the rate of progress of erosion depends on the texture and structure of soil, soil cover, slope of the land, weather conditions, etc

35
When the soil surface remains bare, water-flows (may be rain water or artificial irrigation), if possible, wash layers of the top soil. Such type of erosion is known as sheet wash. Such washing may develop into gully formation. The surficial run offs often go to form small streams. In turn these streams mingle together to form rivers. At places, ground water comes up on the surface and adds more life to these rivers. (This process of outcoming of the ground water goes to explain the origin of many inland rivers.) When such flows try to reach lower levels fairly fast, at the edge of the upper terrace (or land) they curve out channels. Such channels are known as gullies. It is obvious that gullies develop well in undulating areas, where water has to jump down to reach lower lands

36
If the rate of progress of erosion is not rapid, cultivation breaks up the gullies and protects the land. But in neglected areas, the gullies extend out very rapidly under favourable conditions. Gully erosion brings poverty to the land along with. The erosion results in spread of coarse and poor materials from the sub-soils of the upper level of land to the lower lands. The upper land gradually loses more and more of top soil and becomes poorer and poorer. The extension of gullies makes the reclamation problem a difficult and costly one. The eroded materials in turn come down and choke up the river beds, irrigation routes, etc

37
As has been stated earlier in the Chapter III, actually, almost all the rivers, khals, etc, of the State are suffering more or less from this problem

38
The rivers are turbid and are somewhat sluggish in the plains of West Bengal. But the carrying capacity of eroded materials of a flow depends on the speed of flow of water (4). For presenting a rough idea, the following table may be considered(5) —

(i) A stream having velocity of 1/6 m p h will barely move fine clay

(ii) A stream having velocity of 1/4 m p h will move fine sand

(iii) A stream having velocity of 1/2 m p h will move coarse sand

(iv) A stream having velocity of 1 1/2 m p h will move fine graval

39
As the velocity of the flow of a river decreases, its carrying power goes down and alluvial deposition continues. Under such a process of deposition, materials gradually get laid down on the bed in order of their weight. It is obvious that the fine gravels settle down first, then coarse sand, then fine sand, then silt and finally the fine clay particles get deposited. When a flow is weak enough to carry materials over certain weight, heavier particles naturally settle down. Thus, automatically, deposition continues in a graded system. This process explains why during the calmness, prevailing in between the tides, silt deposition is maximum in the Hooghly river. Where the Rupnarayan and the Damodar meet the Hooghly, due to mixing up of the water-flows coming down from different directions, the river is more quiet at places. These quiet places allow silt deposition to go on and in consequence many chars (sand banks) have risen in the region (telling upon the navigability of the river Hooghly). When a river flows along a zig-zag course, velocity of water-flow varies from place to place and alluvial deposition also proceeds on accordingly. On the other hand, where a strong flow strikes the bank, the bank gradually breaks down within the river (6)

40
It has been found in experiments that grass lands, forests, etc, can very well protect land from the ravages of erosion and wastage of water due to surficial run off. Agricultural crops like wheat, potato, sugarcane, etc, cannot provide the soil surface with full cover and as such, water is lost due to run off and the run off carries on erosion

41
If the top soil is lost, the sub-soil comes up to the top. The sub-soil can not presently be as fertile as the top soil. As such, the land has to wait long till the freshly exposed sub-soil becomes as good as top soil

(4) Rate of water flow by volume is expressed in terms of "cusec", i e, cubic feet per second, e g, erection of Ganga barrage will divert 20,000 cusec of water from the Ganges. It means, the barrage will have arrangements so that 20,000 cubic feet (volume) of water will be flowing each second to the Bhagirathi

(5) Rate of water-flow by volume and speed of flow do not refer to same property of flow. Rate of water-flow by volume is quite high in the river Hooghly near Calcutta but speed of a stream coming to the plains from hill may be much higher than that of the Hooghly river

(6) The Irrigation Department and the River Research Institute, West Bengal, collect data regarding rivers, specially important ones. By setting up river models (on small scale) in laboratories, problems and nature of rivers are being studied. With the development in scope of utilization of river models, problems of rivers can very well be studied closely in laboratories and solutions of problems regarding rivers can be recommended. In view of this, now-a days, issue of maintenance and control of river systems are being based to a great extent on the observations made in the models

If possible, the problems are studied theoretically. But mostly models are used for study. There are two model stations under the Government of West Bengal, one at Galsi (near Burdwan) and the other at Haringhata

Different types of problems are studied with the help of the models. Problems regarding finding exact location and protective measures necessary for dams, barrages, weirs, etc, drainage of water-logged areas, erosion due to rivers, silting up of river beds, etc are tackled with the help of models. Obviously, some problems are local, i e, they refer to certain areas not big in size but some may cover extensive areas

Experiments have been carried out for suggesting hints required regarding dams and barrages across the rivers Mayurakshi, Dwarka, Brahmani, Kopai and Bakreswar, flood protection measures for the town of Palasbari (Assam) against the Brahmaputra, for Siliguri against the Mahananda, for roads, bridges, etc, against the rivers of north Bengal, etc. The river Kultigong serves as the outlet for the sewage and storm water of Calcutta. Due to the deterioration of the river, issue of drainage of Calcutta sewage posed an awkward problem. In search of solution, a model study was taken up

Of course, regarding erection of dams, barrages, etc, under the D V C project also, a number of models were built up (by another organisation)

Models are, obviously, constructed in reduced scales. In some cases, both the horizontal and vertical scales are reduced at the same rate but in most cases this can not be done. Say, for 40 miles of a river under observation, one 88 yards long model is used, i e, it has been reduced 800 times. Now, if on an average, the river is 10ft deep, by reducing the vertical scale at the above rate, the bed almost looses its depth in model. As such, the point has to be considered before the different scales of reduction for the model are taken up. Often, in view of such points, obviously, horizontal scale is reduced to a greater degree than the vertical scale. Of course, on the basis of mathematical theories, the models are constructed and studied

The scales are selected from many considerations like available space, geographical area under consideration, nature of area under observation, degree of accuracy required, etc

FORMATION OF MEANDER DUE TO CORROSION (Figs. 1 to 3)



Fig - 1



Fig - 2


Fig - 3

Often river erosion is termed as corrosion. Vertical corrosion is responsible for deepening i.e. variation in depth of the bed and lateral corrosion is responsible for widening of the bed. But such properties, often in plains, lead to the shifting of the course of the river.

The adjoining figures give a diagramatic view of the process that makes a straight river winding. Such phenomenon explain why the rivers in plains wind about(i.e. meander).

A look at the map of West Bengal will show how such meandering has taken place in the rivers of the State.

N.B. The diagrams(1 to 7) given on this page are based on certain properties of the rivers. Whenever the properties i.e. conditions change, the picture of the corresponding changes also differ. In other-words, all these diagrams give only rough ideas regarding changes that occur in rivers. For finding the actual changes apprehended, often models are being set up and studied.

DEATH OF A DISTRIBUTARY(Figs. 4 & 5)

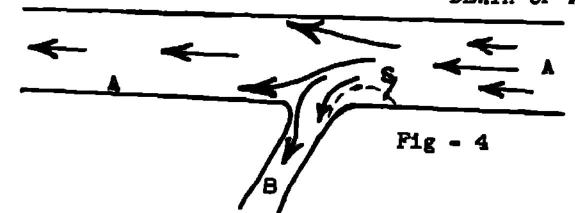


Fig - 4

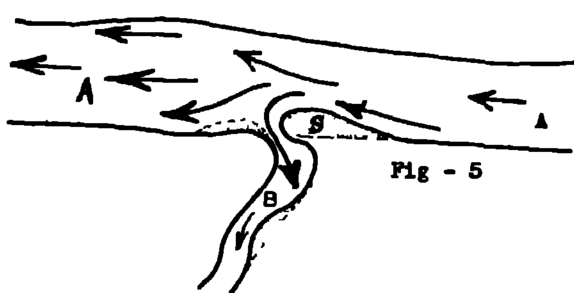


Fig - 5

B is a distributary of A. As flow of water from A tries to enter into B, near the region S, the water is quieter. In this region, if water of A is full of silt, silt deposition sets in.

Consequently, there is meandering. If A is sluggish and B has no capacity to initiate a heavy inflow of water from A, in time, the silting up can choke the mouth.

The diagrams only suggest the nature of the process. In reality, it depends on several properties of A and B.

RUIN OF NATURAL DRAINAGE SYSTEM OF A RIVER(Figs. 6 & 7)

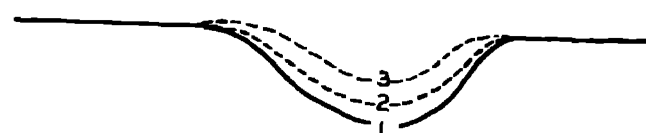


Fig - 6

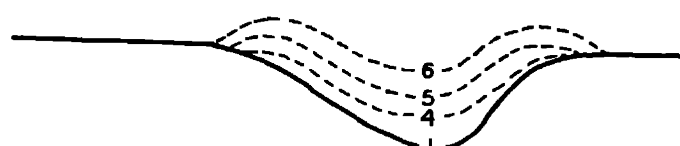
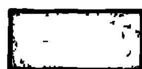


Fig - 7

 Alluvial deposition.

 Direction of flow of water.

1 in Fig.6 shows the initial bed of the river. It helps the drainage of the neighbouring areas. 2 & 3 show the gradual rise in the bed of the river due to silt deposition.

4 and 5 in Fig.7 show the further changes in the river bed. When strong flows try to pass along the silted bed, the silt deposited on the river bed has either to be pushed aside towards the banks or has to be carried by the flow. The first process gradually raises the edges of the bed. At times, the edges may rise higher than the surface of the river side. When such a process taken place, the river fails to carry on the drainage of the neighbouring areas. Floods from such rivers innundate the neighbouring low lying areas on sides but the water can not easily find way to drain out along the rivers.

CHAPTER VIII

(Land utilization)

(*Tables* 8 1 to 8 6)(¹)

1

In Chapter IV, soil classifications with reference to chemical and physical characteristics have been discussed But lands may also be classified in consideration of their different uses Some lands are used for agricultural purposes, some are covered with forests, some are barren and so on The pressure on land is very high in the State and so each year some waste lands are being reclaimed for agricultural and other purposes Roads, buildings, irrigation channels, etc are being constructed more and more—they are covering some new areas too Area under agricultural crops does not remain constant for all the years On years with favourable weather conditions, the cropped area increases and on years with unfavourable weather conditions, the cropped area decreases With increasing irrigation schemes, more and more thirsty lands are getting irrigation facilities This is gradually expanding the scope of increasing double-cropped area in the State Moreover, during droughty years, larger areas can now be utilised with the help of artificial irrigation

2

As such, as far as agricultural aspect is in concern, an annual report is necessary to show the changing picture from year to year The report that is published annually is known as 'The Season and Crop Report" (²)

3

It is obvious that mere study of area figures do not tell much, the reasons behind the changing figures need also be taken into view And in agriculture, the weather conditions (i e , the nature of the season) play a vital role and so reference has to be made to them

4

Tables 8 1 to 8 6 show the land utilization of the different years These are the extracts of the Season and Crop Report for the corresponding years The following table shows the mode of classification used in current reports —

Total geographical area			Classification						
By professional survey	Deduct the area under Pak bounded enclaves for which returns for agricultural statistics are not available	Net area by professional survey for which returns of agricultural statistics are available.	Forest	Not available for cultivation	Other uncultivated land excluding current fallow	Current fallow	Net area sown	Total cropped area	Area sown more than once
1	2	3	4	5	6	7	8	9	10

5

Total geographical area —In column (1) the total geographical areas reported by the Director of Land Records, West Bengal (based on cadastral survey), are being accepted But it may be noted that the total areas of the districts published up to 1950-51 differ in some cases from the corresponding area figures quoted in the reports of the following years These discrepancies, if they may be called so, crept in due to the fact that just with the partition of the State, the Director of Land Records, West Bengal, could not extract the exact areas of all the districts But by 1951, necessary revised areas of the districts were available Correspondingly, the revised figures could be used in the Season and Crop Report from 1951-52

6

On January 1, 1950, Cooch Behar became a district of the State As such, the estimates of this 14th district of the State have been incorporated since 1949-50

7.

With the merger of Cooch Behar districts, West Bengal has got some non-reporting areas Some 23,100 acres of land, under the administrative jurisdiction of Cooch Behar, lie like islands within East Pakistan and no returns for agricultural statistics of these areas are available

8

Forest —It includes lands classed or administered as forest under any legal enactment dealing with forests The cultivated areas that lie within such forests are, however, considered to be under the cropped area and excluded from this item

9

As it goes in West Bengal, column (4) of the above table only covers the reserved and protected forest areas [Lately, with implementation of West Bengal Private Forests Act, 1948, certain other forest areas need be included in column (4) It is hoped that shortly these

(¹) Unless years are mentioned, estimates quoted in this chapter refer to averages calculated for the years 1947-48 to 1952-53

(²) Crop year extends from 1st July to 30th June As such, each calendar year consists of halves of two consecutive crop years To express one crop year, two calendar years are taken together. Thus 1949-50 means the crop year extending from July 1, 1949 to June 30, 1950

changes would be incorporated in the Season and Crop Reports]

10

But apart from reserved and protected forests (2,674 square miles), there are other forest areas too in the State It is estimated that the area under such other forests is 1,523 square miles In the above table, however, the remaining forest areas are shown under column (5) or column (6) in consideration of the nature of the forests

11

Not available for cultivation—This column includes absolutely barren lands, water surfaces, such as areas under the rivers, canals, tanks, etc, big and well developed forests (not included in column 4) and also such other lands as are devoted to uses other than agriculture, such as areas under buildings, roads, factories, etc

12

From the nature of land and their uses it is obvious that there is little scope for release of land under this column for agricultural purposes Buildings, factories, railways, roads, water surfaces, etc, are more or less of permanent nature and have to be maintained essentially This State has shortage of basic requirement of forest and is searching for the opportunity to expand it So, well-developed forests cannot just be hewed down for expanding agriculture

13

Only a portion of the land, now considered as barren, may, however, be reclaimed in future With the progress of science, many impossible things of the past are now common things of the day With bulldozers, tractors, excavators, pumps, etc, many lands, previously considered as unculturable wastes, are now being brought under cultivation Improved farming, irrigation and drainage facilities, manuring practices, etc, have yielded crops even from water-logged and desert-like areas But only those barren lands, the reclamation of which will require prohibitive cost and which is not profitable for the time being, are being included under this column

14

Other uncultivated land excluding current fallow—Before considering this item, column (6), let us take up current fallow, i e, column (7) at the first instance It covers lands which were cultivated in the preceding year but have been left non-cropped in the year under report The practice of keeping the lands fallow for a season or so is an age-old one It is followed to rejuvenate the used up soil (*)

Of course, some lands remain uncultivated due to unfavourable weather conditions Some cultivators due to difficulties regarding seed purchase, etc, cannot use their lands each year However, as a matter of fact some lands each year remain fallow

15

If a certain land remains fallow for a longer period, it is no more included in column (7) but is included in column (6) The column (6) contains other different types of lands like—

(i) *Culturable waste*—The very item head suggests that it covers land suitable for agriculture but left unused (i e, no gainful uses are made of them) or waste (i e, whose productivity is wasted) Lands which have been cultivated in the past but due to some reasons left uncultivated at present, lands under shrubs, bushes, etc, or such waste areas that may very well be brought under cultivation with reasonable cost and effort are also taken within this class

(ii) *Permanent pastures and other grazing lands*—Certain areas are not barren but due to some reasons (like lack of irrigation facilities, poor soil, etc), may not well be suited for cultivation Such lands, on the other hand, may be used as pastures and grazing areas Generally only marginal lands are used for such purposes

(iii) *Land under miscellaneous crops*—Areas growing crops like bamboo, thatching grass, groves and orchards of some perennial crops (excluded from columns of cropped area), etc are not usually considered to be under usual cultivation and are included in column (6)

16

Cropped area—As discussed in Chapter IX, each year, some forecasts are published showing the acreage under and productions of all the major crops grown in the State Totalling up the final acreage estimates under different crops of one crop year, the total cropped area for the season is obtained Here it need be mentioned that regular forecasts for many individual crops are not issued although rough estimates of area under them are collected and added up for getting *total cropped area* However, for such crops like vegetables, condiments and spices, etc, group-wise estimates and individual crops like tea and cinchona estimates are collected each year

17.

To avoid double entry in the land utilisation tables, areas under the crops, which are not included in the abovementioned forecasts and that do not go to form useless jungle areas and are included in abovementioned item (iii) of the land under miscellaneous crops, are excluded from the column of the cropped area

18

Total net under crops is subdivided into two classes, viz, net sown (or cropped) area (column 8) and area sown or cropped more than once (column 10)

19

Net cropped area means the area that has at least been used for growing one crop in the year But parts of this area might be used for growing one or two more crops in the same crop year—such areas go to form the area sown more than once The following example may be taken for explaining the point:—

Suppose, one year in a village (of 600 acres), Aus is grown on 50 acres, jute on 30 acres and Aman on 60 acres Out of the 80 acres used for growing Aus and jute, 50 acres are used again in the same year for growing Rabi crops Over and above this, 15 acres of extra land, not used for other crops, are put under Rabi crops

Hence for the year—

Net cropped area = 50 (Aus) + 30 (jute) + 60 (Aman) + 15 (Rabi) acres = 155 acres

Area sown more than once = 50 acres

Total cropped area = (155 + 50) acres = 205 acres.

(*) In between cropped periods, the land is at times left fallow so that the action of air, precipitation, microbes, etc, can bring back fertility of the soil But with increasing knowledge in the field of agriculture, often it is considered not necessary to keep a land fallow Lost fertility and productivity of the soil can be supplemented by timely application of adequate amount of manures and fertilizers along with growing crops according to suitable relation.

20
These refer to classifications used in official agricultural statistics But apart from these, other local classifications are also in vogue

21
The fallow lands are known as Patit Jami It is divided into two classes —

(i) Laik Patit, i e , land left fallow but fit for cultivation

(ii) Garlaik Patit, i e , land left uncultivated and not fit for cultivation

22
Sometimes the following classification is also used —

(i) *Shabek (or Danga) Patit* —Generally high lands and not suitable for cultivation (No rent is payable by the raiyat)

(ii) *Hal (or Fasal) Patit* —Area that was under cultivation but left fallow due to sand deposition or derangement of the available irrigation facilities or such other reasons. Such land under suitable conditions can be once again brought under cultivation (Rent, if not relinquished by the landlord, is payable by the raiyat)

(iii) *Rosad Patit* —Fallow land included with raiyats holdings but no rent is charged for Generally such procedure is adopted by the landlords for retaining the possession and for barring the acquisition (of such land) by other of the rights

(iv) *Gochar Patit* —Land used as pastures It belongs to the landholders but generallly no rent is payable for using such land for grazing purposes

Salghar means fallow lands used for erecting structures for different purposes

23
The following Table A shows nature of the land utilization in the State for the years 1947-48 to 1954-55

TABLE A

Land Utilization in West Bengal

(1)	(2)		(3)		(4)		(5)		(6)		(7)	(8)
Year	Forest		Not available for cultivation		Other uncultivated land excluding current fallow		Current fallow		Net area sown		Total cropped area	Area sown more than once
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	
1947 48	1,695 9	9 02	2,966 7	15 78	1,918 3	10 21	875 0	4 65	11,341 5	60 34	12,722 6	1,381 1
1948 49	1,695 9	9 02	2,985 1	15 88	1,913 0	10 18	976 8	5 20	11,226 6	59 72	12,564 1	1,337 5
*1949-50	1,712 6	8 73	3 062 7	15 61	2,029 5	10 35	1,003 0	5 57	11,720 2	59 74	13,011 0	1,290 8
*1950 51	1,711 7	8 73	3,213 7	16 38	1,829 8	9 33	1,132 8	5 77	11,730 0	59 79	13,234 2	1,504 2
†1951-52	1,712 1	8 63	3,369 4	16 98	1,781 6	8 98	1,326 8	6 68	11,655 5	58 73	13,292 9	1,637 4
†1952 53	1,711 1	8 62	3,429 6	17 28	1,709 0	8 61	856 3	4 31	12,139 4	61 17	14 044 6	1,905 2
†1953-54	1,708 5	8 61	3,444 3	17 35	1,641 5	8 27	753 6	3 80	12,297 5	61 97	14,308 2	2,010 7
1954-55	1,708 5	8 61	3,503 3	17 65	1,628 8	8 21	1,104 1	5 56	11,900 7	59 97	13,785 8	1,885 1
1955-56		.						..	.	..	..	
1956-57								.	.	.	.	

24
Regarding forests, discussions have already been taken up in Chapter VII Column (2) shows that more lands are gradually coming under this item with the progress of afforestation work The column (4) shows that uncultivated land excluding current fallow has come down by some 2 89 lakh acres in 8 years time Highest acreage was recorded in 1949-50 and lowest in 1954-55

25
Area under current fallow fluctuates, mainly depending on the weather conditions As has been stated, agro-economic factors also have influence over the issue The column (5) shows that area under the class was 875,000 acres (4 65 per cent of total area of the State) in 1947-48 but increased gradually up to 1,326,800 acres (6 68 per cent of total area) in 1951-52 and then in 1953-54 it dropped down to 753,600 acres (3 80 per cent of total area) With unfavourable weather conditions of 1954-55, it rose up to 1,104,000 acres in 1954-55

26
The column (3) shows that area under the item "Not available for cultivation" is slowly on the increase Starting from 2,966,700 acres (15 78 per cent of total area) in 1947-48 the area rose to 3,503,300 (17 65 per cent of total area) in 1954-55 This increase (by 536,600 acres) is due to exploitation of more land for purposes other than agriculture Erection of factories, houses, schools, hospitals, etc , excavation of new canals, tanks, etc , are consuming more lands gradually The Mayurakshi Project has used up some 15,100 acres and D V C , when completed, will occupy some 25,800 acres of land of the State

27
The column (6) shows that the net cropped area of the State varied between 11,226,600 acres (i e , 59 72 per cent of total area of the State) in 1948-49 to 12,297,500 acres (i e , 61 97 per cent of total area) in 1953-54, i e , by 10 7 lakh acres Net cropped area fluctuates mainly due to the variable nature of the weather conditions

28
The column (8) shows how the area sown more than once increased almost gradually since 1947-48 The following table shows picture of the progress viewed from another angle —

	1947-48	1948 49	1949 50	1950 51	1951 52	1952 53	1953 54	1954-55	1955-56
Area sown more than once as percentage to total cropped area	10 86	10 65	9 92	11 37	12 32	13 57	14 05	13 67	.
Area sown more than once as percentage to net cropped area	12 18	11 91	11 01	12 82	14 05	15 69	16 35	15 84	

(a) Area in thousand acres

(b) Actuals as percentages to total geographical area of the State deducting area under Pak, bounded enclave

(*) Cooch Behar merged into the State on January 1, 1950, and as such area of the State was taken as 19,018,000 acres instead of 18,797,400 acres, i e , 29,370 square miles

(†) Due to revision of areas of the districts by Director of Land Records, West Bengal, the total area was taken instead of 19,618,000 acres, i.e., 30,688 square miles as 19,845,400 acres, i e , 31,008 square miles (excluding Pak enclaves covering 36 square miles.

29

Double or triple cropping mostly needs irrigation facilities With the progress of irrigation projects, such facilities are extending and which in turn are slowly increasing the area of lands under more than one crop in a year

30

Tables 8 1 to 8 6, A 37 and A 37(a) show the districtwise break-up of classification of area for the years 1947-48 to 1954-55

31

Table B gives a summary of the picture of distribution of cropped area in the State It shows that all districts do not have equal conditions and prospects of utilisation for agricultural purpose As such, the gradations of the districts in order of total geographical areas vary from gradation made with reference to the sizes of net cropped areas and total cropped areas available in different districts Midnapore, as a district, provides with largest cropped area and next to it comes 24-Parganas 31 99 per cent of the net cropped area and 30 61 per cent of the total cropped area of the State are in these two districts

TABLE B

Distribution of Cropped Area in West Bengal

	Districts	District area as percentage to the total area of the State	Not cropped area of the district as percentage to the net cropped area of the State	Total cropped area of the district as percentage to the total cropped area of the State	Area sown more than once as percentage to the corresponding cropped area of the district		Net cropped area as percentage to the total area of the district	Current fallow as percentage to the total area of the district
					Net cropped area	Total cropped area		
1	24-Parganas	18 17	12 85	12 75	12 02	10 73	43 92	1 98
2	Nadia	4 86	5 41	6 57	37 13	27 08	66 16	13 66
3	Murshidabad	6 68	8 57	10 21	34 72	25 77	76 43	3 14
4	Burdwan	8 72	9 78	9 12	5 35	5 08	66 55	4 46
5	Birbhum	5 61	6 66	6 48	8 27	7 64	71 53	2 94
6	Bankura	8 53	7 38	6 94	6 21	5 85	51 44	13 71
7	Midnapore	16 92	19 14	17 86	5 44	5 16	67 20	4 75
8	Hooghly	3 89	5 01	4 78	7 77	7 21	76 42	1 63
9	Howrah	1 81	2 15	2 19	14 72	12 83	70 99	2 01
10	Jalpaiguri	7 65	5 50	5 17	6 38	6 00	42 69	4 63
11	Darjeeling	3 86	1 89	1 86	10 95	9 87	29 07	3 10
12	Malda	4 48	5 78	6 26	22 20	18 17	76 64	7 06
13	West Dinajpur	4 46	5 50	5 53	13 78	12 11	70 77	6 40
14	Cooch Behar	4 26	4 28	4 28	13 02	11 52	59 82	11 36
15	Calcutta	0 10						
	Total West Bengal	100 00	100 00	100 00	12 97	11 48	59 87	5 45

32

The position of area sown more than once is changing gradually in different districts In a State like West Bengal, where effort is being made constantly to improve upon and expand the irrigation facilities, only an average, estimated over years, cannot present the picture properly At the same time, it is also true that the position, in general, cannot be studied with reference to yearly estimates, for neither irrigated area nor area sown more than once depends only on the available irrigation facilities As such, estimates of irrigated area need be studied with reference to weather conditions and the command area (i e , area capable of receiving irrigation facilities) of the different irrigation projects However, for giving a rough idea regarding the present position of area sown more than once, some average figures have been incorporated in Table B It shows the area sown more than once in different districts as percentage to the corresponding net cropped and total cropped areas of the district

33

Table B shows that Nadia utilised 37 13 per cent of its net cropped area as area sown more than once Though the position of Midnapore and 24-Parganas are remarkable with reference to available cropped area, in 24-Parganas only 12 02 and in Midnapore only 5 44 per cent of net cropped area are utilised as area sown more than once For the State as a whole, it is seen that only 12 97 per cent and 11 48 per cent respectively of its net cropped and total cropped areas come out as area sown more than once

34

Table B shows further the extent of utilisation of the geographical areas of different districts as net cropped area It is seen that Malda, Murshidabad and Hooghly uses 76 to 77 per cent , Birbhum, Howrah and West Dinajpur 70 to 72 per cent , Midnapore, Burdwan, Nadia and Cooch Behar 60 to 70 per cent and Bankura 51 44 per cent of their corresponding geographical areas as net cropped area 24-Parganas, though agriculturally important, gets only 43 92 per cent of its geographical areas as net cropped area Considering State as a whole, West Bengal utilises 59 87 per cent of its area as net cropped area

35

Table B shows that on an average 5 45 per cent of the total area of the State remains current fallow

36

The same table shows the distribution of the extent of area under current fallow in different districts 38 73 per cent of the current fallow of the State are in Bankura, Nadia and Cooch Behar Midnapore has 4 75 per cent and 24-Parganas 1 98 per cent of the current fallow of the State.

37

Cropped area does not remain constant over years It fluctuates with the prevailing weather conditions and agro-economic situation Total cropped area increases with the increase in the area sown more than once and decrease in the fallow area But as "area sown more than once" cannot

increase suddenly in a year, the increase in cropped area comes mainly from the utilization of fallow lands Lack of irrigation facilities, sand deposition due to floods, etc , may keep a land fallow for two or three years After first year, this land is no more taken as current fallow It is considered as an old fallow and is included under the item "Other uncultivated land excluding current fallow "

38

As regards area not available for cultivation, it may be said, the land under the item head is extending gradually The reason for such increase has already been discussed

39

Area under the item "Other uncultivated land excluding current fallow" fluctuates but it is generally decreasing with the progress of certain developmental work (like afforestation, reclamation of waste land, etc) As such, for these items also average over years give only mean position The following Table C gives an overall picture of the position regarding the above two items

TABLE C

District	Area not available for cultivation(*)			Other uncultivated land excluding current fallow(*)		
	Average	1947-48	1952-53	Average	1947-48	1952-53
Darjeeling	23 18	23 18	23 25	6 88	8 71	6 67
Howrah	22 08	22 50	22 04	4 92	5 92	4 02
Midnapore	20 08	19 94	20 40	7 97	8 94	7 14
Bankura	19 77	20 37	20 13	15 08	15 33	14 53
Burdwan	19 21	17 90	20 80	9 68	11 40	7 40
Hooghly	18 05	18 59	18 04	3 90	3 85	3 87
West Dinajpur	16 45	16 29	16 22	6 37	5 98	4 43
Birbhum	15 24	12 72	17 13	10 29	14 19	5 44
24 Parganas	14 54	12 67	16 79	9 37	10 24	8 04
Murshidabad	13 15	12 96	13 41	7 28	3 67	7 24
Jalpaiguri	13 10	11 86	15 05	15 65	17 37	14 74
Cooch Behar†	10 12		11 01	14 14		13 94
Nadia	9 71	8 59	12 03	10 48	10 94	11 75
Malda	9 52	9 42	9 54	6 76	7 26	6 25

(*) Actual area as percentage to total geographical area of the district

(†) In 1947-48, Cooch Behar was not within West Bengal

40

While the above table is studied, it must be remembered that in between the years 1947-48 to 1952-53, area of the State has changed twice Tables 8 2 to 8 7 show the actual estimates of area under these classes

41

It is estimated that roughly 1 10 lakh acres of unculturable waste land lies in this State Parts of this can be utilized for growing forests According to a rough estimate, about 13 lakh acres of land lies in the State that may be classed as culturable waste They all do not form large blocks, rather they lie scattered This includes old fallow, parts of which from time to time are brought under cultivation At the same time, fresh lands enter this class by being kept fallow for more than one year Thus parts of land under this class get exchanged with classes of lands under current fallow and cropped areas With increasing pressure on land, culturable wastes are being used for growing crops Actually speaking, there are hardly large blocks of land that can easily be brought under agriculture but yet are left waste Long left wastes have generally one or more weaknesses that cannot be removed without considerable expenditure Sometimes, it does not become economical for the cultivator to cultivate detached plots of waste lands However, attempts are there to reclaim the blocks of culturable wastes for expansion of agriculture

42

With the help of the Government tractors, some 35,371 acres of land have been reclaimed (in between 1949-50 and 1953-54) It is estimated that over and above this some 2 lakh acres of waste land have been reclaimed by private bodies and individuals both for agricultural and other purposes

43

This is obvious that not much of land yet remains unreclaimed in this State So, even if whole of that which can be reclaimed at an economic cost (some 5/6 lakh acres) and is brought under plough, the increase in the net cropped area will not be very big At the same time, it has to be kept in view that more area for increasing the orchards, groves, etc , is necessary and so, looking to future, it may be said that for opening up greater scope for expansion of agriculture, the practised method of keeping lands fallow will have to be abandoned But only supply of seeds, manures and fertilizers, irrigation facilities, etc , will not be able to bring this important change as behind the practice lie certain age-old notions of some cultivators and their poverty-stricken conditions At the same time, the extent of "area sown more than once' also has to be increased For this perhaps, it is best to follow suitable crop rotation programmes and take recourse to application of adequate quantity of manure and fertilizers to soil For such intensive utilization of land, it is essential to ascertain and adopt the rotations most suitable for a land Obviously, such programmes need be detailed out with reference to the nature and type of the land weather conditions of the area, irrigation and drainage facilities available, etc

44

In other words, with the development of better understanding of the soils and crops can come the agricultural prosperity of the land However, as it is not an impossible task (at the same time though not an easy job), one can very well look ahead towards the future, glorious with remarkable prosperity on agricultural sector of West Bengal that, being a part of the great Gangetic delta, is endowed with wonderful opportunities to be rich with agriculture

CHAPTER IX(*)

(Crops)

(Tables 9 1 to 9.15)

1.
The crops, with reference to their periods of cultivation, can mainly be divided into two classes, viz , Rabi (Winter) and Kharif (Autumn) The crops, for which field preparation starts after the rainy season is over and of which harvesting is completed before the next rainy season sets in, are known as Rabi crops Potato, winter vegetables, tobacco, wheat, gram, rape and mustard, etc , are Rabi crops The crops for which field preparation starts with the onset of showers that usher in the rainy season, and of which harvesting gets over before the winter comes in, are known as Kharif crops These crops thrive on the showers of the monsoon Aus (Autumn rice), jute, Mesta, etc , are Kharif crops

2
In view of this, it may generally be said that Kharif season covers the period of nearly eight months from March to October and Rabi season covers the period of nearly seven months from October to April The months cannot be rigidly mentioned because the seasons are regulated by rainfall and rainfall is not very regular Cultivation also depends on the soil and local climatic factors and as such there are some variations in cropping time from place to place

3
The Bhadoi season covers a period within Kharif season It denotes crops that are harvested during August-September

4
As far as Aman (winter or Haimantic rice)(1) is in concern, its sowing (and transplantation) time merges with that of Kharif crops (June to August) The crop thrives on monsoon showers and harvesting of the major portion of the crop grown in the State takes place in winter between end of October and December In some cases, the harvesting time may be extended even up to January Thus as Aman paddy covers the parts of both Kharif and Rabi seasons, it is difficult to use the land for another crop

5
It need be mentioned here that the times of sowing, transplanting and harvesting do not follow certain fixed dates They vary from crop to crop For the same crop, they may vary from variety to variety Moreover, they depend on soil, agronomic conditions, local climatic and weather conditions too As for example, it has been found that Aman paddy grown with heavy irrigation takes a longer time to be ready for harvesting than the crop grown in areas getting lesser irrigation facilities

6
Some crops may require a year or more for their cultivation Sugarcane, Arhar, cotton, etc , are such crops

7
Sometimes, on the lands available in between the two seasons, suitable catch crops like millet, cowpea, vegetables (gourd, raddish, Jhinga, Urchay, etc) are grown Such crops can be grown where Rabi crops can be harvested early and necessary irrigation facilities can be arranged

8
The following lines indicate broadly the conditions that are suitable for growing some of the crops For a detailed discussion on the subject, books on agronomy may be referred to

9
Aman, i e , winter rice It grows well on clay loam to clay soil and requires standing water But high class Aman varieties need comparatively less water It is grown widely as a transplanted crop though at places it is grown as a broadcast crop also The crop takes some five to six months' period for its cultivation As the crop thrives on standing water and its yield rate depends on time of transplantation, the crop is greatly dependent on monsoon showers Generally speaking, low and medium lands are suitable for growing the crop Aman is a season fixed crop

10
Aus, i e , autumn rice—Sandy loam and loamy sand soils are most suitable for the crop This crop also thrives on monsoon showers and takes three to four months for its cultivation Aus generally produces poor quality of rice (than Aman) but some fine varieties are also available Yield rate of Aus generally is lower than that of Aman

Mostly medium and some high lands are suitable for growing the crop Aus is a time fixed crop and its harvesting is over before Rabi season

11
Boro, i e , summer rice—It grows on low-lying areas where water can be kept standing for the growth of the crop It is sown in winter, harvested in summer and all total takes some three months' time for its cultivation Near embankments, where it is easy to provide adequate water, Boro paddy is grown widely

12
Jute It is most productive on loamy soil The crop cannot thrive well on laterite and open gravelly areas Clay soil gives heavy yield rates but plants grown on such soil do not ret uniformly Sandy soil yields coarse fibre Plants grown on inundated lands have injured fibres It takes some five to six months for its cultivation and its harvesting is over before the onset of Rabi season

Requirements of Aus and jute are almost similar and as such land under one crop may very well be utilised for growing the other crop Generally, area under Aman paddy can hardly be used for growing another crop (like potato, wheat, oilseeds, etc) Whereas Aus and jute fields can grow a winter crop, preferably with some irrigation facilities However, marginal lands can be used for growing any of these crops

14
Gram and pulses—They grow very well on Doansh and Pali (i e , silt) soil Actually, if the soil is not stiff clayey or very sandy, pulses can be grown Gram grows well on clayey soil also They are all grown mainly as Rabi crops and take some five to six months for their cultivation Kharif pulses only contribute a small portion of the total pulse production of the State

Generally, medium and high lands are suitable for the crops

15
Wheat and barley—Loamy and clay loam soil grows the crop well Dry and fairly cold weather favours the crops It takes some five to six months for cultivation of these Rabi crops.

(*) Unless mentioned otherwise all average estimates and percentages are calculated for the years 1947-48 to 1952 53

(1) It is called Haimantic paddy as it is generally harvested during Hemanta Season i e , during the months November and December.

16
Maize —Well-drained high loamy soil is suitable for the crops Even rough gritty soil with high humus content can grow the crop well Hilly regions of Darjeeling district are most suitable for growing good quality maize Alluvial plains wih high relative humidity, are not very suitable for maize But some acres are sown with the crop for the green maize cobs that are sold at good market-price

17
Oilseeds —Medium and high lands with good drainage facilities are suitable for the oilseed crops Doansh soils grow most of the crops very well

Linseed grows well on heavy soil, light soils are not usually suitable for the crop

18
Sugarcane —Excepting saline, gravelly and hilly tracts, other areas can be used for growing the crop Loamy and clayey loam soils are most suitable for the crop Clay soil raises the cost of cultivation and sandy soil needs more irrigation facilities High and medium lands are suitable for the crop as the crop cannot stand water-logging for a long time The crop may be used as a perennial crop but growing of more than two to five ratoons lower the quality of the harvest Usually the crop takes some 10-12 months' time for its cultivation

19
Tobacco —Well-drained light soil or sandy loam soil rich with humus and mineral contents are suitable for the crop Clay soil gives higher yield but the leaf becomes coarse

20
Tea —The crop requires well-drained and open rich soil receiving good rainfall Hot temperature is not favourable for the crop

21
Vegetables —They mostly grow well in light soils like sandy loam and loam Most of the spices also thrive well on such light soils Generally speaking, well-drained lands are suitable for the crop

22
The following pages deal with the area under and production of different crops grown in the State The discussion, being a brief one, obviously, is not complete Regarding the major crops of the State, figures have, in this chapter, been taken from final official forecasts But forecasts are not issued for all crops that grow in the State Mainly, forecasts are issued for principal crops like paddy, jute, oilseeds, pulses, sugarcane, tobacco, potato, cotton, wheat, barley, maize, etc For preparation of these forecasts, data are collected annually But collection of data regarding all the other crops that are grown in the State is not feasible in consideration of the cost and labour involved Many of these crops are perennial crops and, as such, data collected regarding them from time to time are being used till the next survey is completed There are many crops that are not perennial and are grown in different parts of the State (mostly in scattered ways) Data for all such individual crops (like brinjal, Patal, Uchhey, pineapple, cabbage, cauliflower, tomato, carrot, beans, mask melon, water melon, gourd, etc), are not available.

23
However, the importance attached to different crops in the State and in districts comes out clearly from the study of the nature of general utilization of cropped area

24
Table 9 11 shows the districtwise acreage under and production of the major crops grown in the State during 1947-48 to 1952-53 Tables 9 9 and 9 10 show respectively the Statewise estimates of acreage and production of different crops of the State for the years 1947-48 to 1954-55.

25
Table 9 12 shows the districtwise yield rates of different crops of the State for the period 1947-48 to 1952-53

26.
Table 9 13 gives the Statewise yield rate estimates of the crops of 1947-48 to 1954-55

27
Tables 9 1 to 9 8 give the districtwise average estimates (for 1947-48 to 1952-53) of area under, production and yield rate of different crops grown in the State Tables 9 7 and 9 8 show the percentage shares of the corresponding acreage and production of the different districts Tables 9 1(*a*) to 9 3(*a*) show the districtwise average estimates for the years 1950-51 to 1954-55 Tables 9 7(*a*) and 9 8(*a*) give the percentage share of districts of the corresponding acreage and production

28
Rice —In consideration of area covered by different crops, rice is by far the most important crop of the State and among rice, Aman is the major type—

Crop	Average area covered (in 1,000 acres)		Average production (cleaned rice) in 1,000 tons		Average yield rate in mds./acre (cleaned rice).	
	1947-48 to 1952-53	1950-51 to 1954-55	1947-48 to 1952-53	1950-51 to 1954-55	1947-48 to 1952-53	1950-51 to 1954-55.
Aman	84,22 8	86,39 0	32,49 ·0	36,33 7	10 50	11 45
Aus	12,69 5	12,93 3	3,88 0	4,13 5	8 32	8 70
Boro	38 3	43 4	15 2	16 7	10 80	10 47
Total	97,30 6	99,75 7	36,52 2	40,63 9	10 22	11 09

29.
The above table shows two comparative sets of average acreages, productions and yield rates of Aman, Aus, Boro and total rice

30
From Table 9 4 it is seen that some 63 27 per cent of the total cropped area remains under Aman, 9 55 per cent under Aus and 0 29 per cent under Boro, i e , on an average nearly some 73 11 per cent of the total cropped area of the State is utilised for growing rice

31.
Jute covers 4 34 per cent , gram 2 49 per cent , rape and mustard 1 53 per cent , pulses (excluding gram) 7 88 per cent and tea covers 1 49 per cent. However, 86 94 per cent of the total cropped area of the State goes for producing foodgrains only

32
Compared to West Bengal (11 10 md /acre), yield rates of rice in States like Bombay (9 3 md / acre), Bihar (7 0 md /acre), Orissa (6 2 md / acre), etc , are lower but Table 9 5 reveals the more suggestive picture It shows that compared to the average yield rates of rice of countries like Spain (37 7 md /acre), Italy (35 5 md./acre), Australia (34 5 md /acre), Japan (28 0 md /acre), Portugal (27 0 md /acre), Egypt (26 5 md /acre), etc , how poor is the rate of production in West Bengal (*)

33
This goes to point out why in West Bengal, area under rice, that forms the major staple food, cannot be reduced readily Some betterment in yield

(*)Weight of a given volume of cleaned rice=2/3 (weight of the volume of paddy that produces the rice) In other words, one-third of the weight of paddy is lost during the process of rice making.

rate can easily go to release a portion of the cropped area for growing other crops This feature cannot but draw attention as the present mode may very well be viewed somewhat as wastage of land potentialities Low yield rates of principal crops stand on the way of improving economic conditions of the cultivators and that again resist the development of agriculture Thus a vicious circle tries to roll on Moreover, it may be noted that production of grains alone can hardly give high return per acre (in terms of money value, that may be utilised by the cultivators to attain better economic position

34
Table 9 6 shows that some 17 2 per cent of the total rice production of India is contributed by West Bengal whereas Bihar contributes 13 7 per cent , Madras 11 2 per cent , Andhra 9 1 per cent , Orissa 9 2 per cent , Madhya Pradesh 11 0 per cent , Assam 6 8 per cent and Bombay contributes 4 5 per cent Obviously, West Bengal can move further ahead in the list if she can achieve higher yield rates

35.
Taking the picture of production within the State, it is seen that 21 42 per cent of the total production of rice of the State comes from Midnapore, 13 33 per cent from 24-Parganas, 12 01 per cent from Burdwan, 9 28 per cent from Bankura, 8 90 per cent from Birbhum, 6 29 per cent from Murshidabad and the other 28 77 per cent from the remaining eight districts (Table 9 8), i e , 46 76 per cent of total rice production of the State is contributed by Midnapore, 24-Parganas and Burdwan On the other hand, 21 49 per cent of the total area under rice in the State lies within Midnapore, 13 78 per cent in 24-Parganas, 10 91 per cent in Burdwan, 8 38 per cent in Bankura, 7 87 per cent in Birbhum, 7 00 per cent in Murshidabad and the remaining 30 57 per cent in the other eight districts (Table 9 8) The percentage shares of area and production in districts differ due to difference in yield rates.

36
Taking separately the case of Aman rice, it is seen that nearly 88 96 per cent of the total rice production of the State constitutes of this variety, 22 86 per cent of total Aman rice produced in the State comes from Midnapore, 14 09 per cent from 24-Parganas, 12 94 per cent from Burdwan, 9 03 per cent from Bankura, 9 02 per cent from Birbhum, 5 50 per cent from Hooghly, 5 05 per cent from Murshidabad, 5 04 per cent from West Dinajpur and remaining 16 47 per cent from the other six districts Midnapore, 24-Parganas and Burdwan produce nearly half (49 89 per cent) of Aman rice of the State and cover 50 10 per cent of the total area under the crop

37
For Aus and Boro, the pictures are somewhat different Of the total Aus rice produced in the State, 17 66 per cent is contributed by Nadia, 16 57 per cent by Murshidabad, 11 65 per cent by Bankura, 9 66 per cent by Midnapore, 9 64 per cent by Malda, 8 18 per cent by Birbhum, 7 45 per cent by 24-Parganas, 5 13 per cent by Cooch Behar and the other 13 96 per cent by the remaining six districts Aus variety of rice contributes 10 62 per cent of the total rice production of the State.

38
Boro rice actually comes out to be a minor crop when compared with Aman and Aus varieties Only 0 42 per cent. of the total rice production constitutes of this variety However, 49 18 per cent of the total Boro rice production comes from Malda, 10 88 per cent from Midnapore, 10 10 per cent. from Murshidabad, 8 89 per cent. from Hooghly and 8.69 per cent from Burdwan In Jalpaiguri and Cooch Behar, the crop is generally not grown

39.
Referring to the Table 9 4, which shows the percentages of the total cropped area of the districts used for growing different crops, it is seen that of the respective total cropped areas, 88 62 per cent (79 22 per cent for Aman, 9 40 per cent for Aus, nil for Boro) in Birbhum, 88 15 per cent (72 16 per cent for Aman, 15 97 per cent for Aus, 0 02 per cent for Boro) in Bankura, 87 79 per cent (82 15 per cent for Aman, 5 46 per cent for Aus, 0 18 per cent for Boro) in Midnapore, 87 13 per cent (82 99 per cent for Aman, 4 13 per cent for Aus, 0 19 per cent. for Boro) in Burdwan, 78 39 per cent. (73 28 per cent for Aman, 5 09 per cent for Aus, 0 02 per cent for Boro) in 24-Parganas, 77 47 per cent (75 89 per cent for Aman, 0 91 per cent for Aus, 0 67 per cent for Boro) in Howrah, 77 32 per cent (68 80 per cent for Aman, 8 44 per cent for Aus, 0 08 per cent for Boro) in West Dinajpur, 72 74 per cent (68 12 per cent for Aman, 4 10 per cent for Aus, 0 52 per cent for Boro) in Hooghly, 70 18 per cent (53 83 per cent for Aman, 16 35 per cent for Aus, nil for Boro) in Cooch Behar, 64 13 per cent (58 96 per cent for Aman, 5 17 per cent for Aus, nil for Boro) in Jalpaiguri, 50 03 per cent (33 43 per cent for Aman, 16 31 per cent for Aus, 0 29 per cent for Boro) in Murshidabad, 49 89 per cent (32 60 per cent for Aman, 14 93 per cent for Aus, 2 36 per cent for Boro) in Malda, 48 11 per cent (23 87 per cent for Aman, 24 13 per cent for Aus, 0 11 per cent for Boro) in Nadia and 25 53 per cent (24 60 per cent for Aman, 0 69 per cent for Aus, 0 24 per cent for Boro) in Darjeeling, are used for rice cultivation Of the total area under rice in the State, 86 56 per cent is under Aman, 13 05 per cent under Aus and 0 39 per cent under Boro

40.
This brings out the importance that is being attached to rice cultivation in the different districts and suggests how greatly the general agro-economic conditions of the State has its base on the production of rice The point assumes further importance in view of the fact that general sizes of cultivator's holdings are small

41
Between 1947-48 and 1952-53, the area put under Aman rice fluctuated between 81 07 lakh and 88 02 lakh acres, for Aus rice it was between 11 24 lakh and 13 64 lakh acres and for Boro rice it was between 25 3 thousand and 48 5 thousand acres The corresponding variations in production of cleaned rice for Aman were found to lie between 29 56 lakh and 35 59 lakh tons, for Aus between 3 36 lakh and 4 47 lakh tons and for Boro between 9 4 thousand and 18 3 thousand tons

42
As will be seen from the Tables 9 9 and 9 10, in 1953-54, the year of bumper production, Aman covered 89 34 lakh acres and produced 46 80 lakh tons of cleaned rice, Aus covered 15 70 lakh acres and produced 5 27 lakh tons of rice and Boro covered 44 4 thousand acres and produced 18 4 thousand tons of cleaned rice

43
Thus, though the total production of rice varied between 33 87 lakh and 39 50 lakh tons between 1947-48 and 1952-53, in 1953-54 it came out to be 52 25 lakh tons (9 9 Table)

44.
Jute —Jute is by far the most important cash crop of the State and its cultivation covers, on an average, some 4 34 per cent. of the total cropped

area of the State West Bengal contributes nearly half (some 49 4 per cent) of the total jute production of India The remaining volume of raw jute comes from Assam (22 1 per cent), Bihar (18 7 per cent), Orissa (6 2 per cent), U.P (2 3 per cent) and Tripura (1 3 per cent) Though many countries have tried to grow jute and substitute fibres of the kind of jute fibre, the attempts either have failed or have only been partly successful As such, till today, excepting East Pakistan, India has no strong rival in the field of raw jute production In view of this fact, jute cultivation gains special importance

Table A.

Area and Production of Jute in India and West Bengal(*)

	India			West Bengal		
	Area (in thousand acres)	Production (in thousand bales)	Yield rate per acre (in bales)	Area (in thousand acres)	Production (in thousand bales)	Yield rate per acre (in bales)
1947-48	651 8	1,658 2	2 54	266 4	648 7	2 44
1948-49	833 6	2,054 8	2 47	349 9	906 3	2 59
1949 50	1,163 0	3,089 0	2 66	498 0	1,452 5	2 92
1950 51	1,411 0	3,283 0	2 33	650 9	1,496 0	2 30
1951 52	1,951 0	4,678 0	2 40	876 1	2,330 4	2 66
1952 53	1,813 0	4,692 0	2 59	836 3	2,363 1	2 88
1953 54	1,228 0	3,091 0	2 52	534 7	1,498 4	2 80
1954-55	1,243 0	2,928 0	2 36	550 6	1,496 4	2 72
1955 56	1 739 0	4,197 0	2 62	779 5	1,957 8	2·51
1956-57	1,883 0	4,221 0	2·24	671 7	1344 7	2·00
1957 58					.	..

45
Mesta —It is a crop that gives fibre very much like jute Mesta grows well in this State and actually is grown widely though not as widely as jute Jute crop requires better care than Mesta and Mesta can better stand against adverse weather conditions But jute fibre brings slightly higher market price than that of Mesta and that is one of the reasons why Mesta cannot replace jute

46
As has been stated, jute has its importance as a commercial crop and often its prices fluctuate widely Roughly, some 90 per cent of the jute produced goes out to foreign countries Thus, the price fluctuations in other countries, especially in U S A , produce an impact on which depends the increase and decrease of jute cultivation The Table A shows the fluctuations in jute cultivation in India and West Bengal

47
Apart from the impact of price fluctuations, extent of jute cultivation, obviously, depends on the nature of prevailing weather conditions also

48
On an average, the yield rate of jute in Pakistan is some 3 4 bales/acre and in India some 2 5 bales/acre Average yield rate of jute in West Bengal is 2 7 bales/acres but Assam gives on an averge some 2 9 bales/acre Table 9 12 shows that average yield rates (in bales/acre) as high as 4 50, 3 77, 3 76, 3 59 and 3 57 have been obtained in certain districts of West Bengal

49
Lately, more stress has been laid on growing quality jute and as the quality of jute depends greatly on the process of retting, many tanks are being excavated or re-excavated to provide with adequate retting facilities

(*) Yield of jute fibre is expressed in terms of bales. One bale of jute fibre weighs 400 lb., i e., 4 87 md, roughly.

50
Compared to Bihar (1 97 bales/acre), Orissa (2 3 bales/acre), U P (1.7 bales/acre) and Tripura (2 4 bales/acre), West Bengal usually gets higher yield rate of jute

51
On an average, 17 06 per cent. of the total jute production of the State comes from Murshidabad, 16 45 per cent from 24-Parganas, 11 95 per cent from Hooghly, 10 83 per cent from Nadia, 10 33 per cent from Cooch Behar, 8 69 per cent from Malda, 5 96 per cent from Midnapore and the other 18 73 per cent from the remaining seven districts (Table 9 8) Against this picture, the distribution of acreage (Table 9 7) shows that 19 55 per cent of the total area under jute of the State lies in Murshidabad, 15 46 per cent in 24-Parganas, 10 24 per cent in Hooghly, 12.48 per cent in Nadia, 9 63 per cent in Cooch Behar, 8 56 per cent in Malda, 5 53 per cent in Midnapore and the remaining 18 55 per cent in the other seven districts

52
Referring to Table 9 4, it may be seen that in Cooch Behar 10 40 per cent , Hooghly 9 28 per cent , Murshidabad 8 28 per cent , Nadia 8 22 per cent , Malda 5 92 per cent , 24-Parganas 5.25 per cent , West Dinajpur 5 16 per cent , Jalpaiguri 4 72 per cent , Howrah 4 53 per cent , Burdwan 1 44 per cent and in Midnapore 1 34 per cent. of the respective total cropped area of the districts are being utilized for jute cultivation Birbhum and Bankura use less than 1 per cent of their cropped area for growing the crop

53
So far as Mesta crop is in concern, the following table shows the position of the crop in the State :—

Table B.

Area and Production of Mesta in West Bengal

	1951 52	1952-53	1953 54	1954-55	1955-56	1956-57
Area (in '000 acres)	19 7	16 5	12 8	130 7	192 7	296 8
Production (in '000 bales)	58 2	49 5	35 5	428 3	611 5	803 6
Yield rate (in bales/acre)	3 00	3 00	2 09	3 28	3 17	2 71

54
Gram —In view of the size of area under crops, next to jute comes gram Nadia district utilizes 11 77 per cent , Murshidabad 9 18 per cent , Birbhum 2 22 per cent , Malda 3 25 per cent , Burdwan 1 41 per cent , West Dinajpur 1 07 per cent and Hooghly 1 07 per cent respectively of their total cropped area for growing the crop Darjeeling do not grow the crop and all other districts use less than 1 per cent of their total cropped area for the crop Murshidabad contributes 37 12 per cent , Nadia 32 56 per cent and Malda 7 09 per cent of the total production of the State Out of 23 23 per cent of remaining production, 6 58 per cent comes from Birbhum, 5 27 per cent from Burdwan, 4 03 per cent from 24-Parganas and 7.35 per cent from the seven other districts (excluding Darjeeling)

55
Contribution of West Bengal towards total production of gram in India comes out to be only 3 4 per cent , whereas U P contributes 40 per cent , M P 6 7 per cent and Bihar 6 4 per cent But the average yield rate of gram in West Bengal is 8 98 md /acre whereas in U P it is 6 5 md /acre, in Bihar and M P 4 9 md /acre and for India it is 5 7 md /acre

56
Mustard —Mustard occupies the fourth position in order of size of area put under a crop It covers 1 53 per cent of the total cropped area of the State West Dinajpur produces 19 81 per

cent, Jalpaiguri 16 16 per cent, Cooch Behar 15.70 per cent., Malda 14 55 per cent, Murshidabad 13 03 per cent and Nadia 6 55 per cent of the total yield of the State(*) The other eight districts produce the remaining 14.20 per cent 22 27 per cent of the total area under the crop comes from West Dinajpur (6 14 per cent of its total cropped area), 17 49 per cent from Cooch Behar (6 66 per cent of its total cropped area), 12 84 per cent from Malda (3 13 per cent of its total cropped area), 9 13 per cent from Murshidabad (1 36 per cent of its total cropped area), and 6 71 per cent from Nadia (1 56 per cent of its total cropped area) The remaining 16 59 per cent of the area comes from other districts

57

Other oilseeds—Taking togegther all types of oilseeds, West Bengal contributes only some 0 9 per cent of total production in India, Madras and Andhra contributes 34 0 per cent, U P 17 5 per cent, Bombay 11 6 per cent, and M P 5 4 per cent (table 9 6) In some following lines, position of the oilseeds cultivation in the State has been discussed

58

Linseed—It covers only some 0 4 per cent of the total cropped area of the State Murshidabad puts some 2 05 per cent of its total cropped area under the crop and Nadia 1 76 per cent In 24-Parganas, Hooghly Jalpaiguri, Darjeeling, West Dinajpur and Cooch Behar the crop is generally not grown, when grown, a few scattered acres are used for the purpose The other six districts put less than 0 5 per cent of their total cropped areas under the crop Consequently, 58 42 per cent of total production comes from Murshidabad, 27 42 per cent from Nadia and 5 76 per cent from Malda

59

On an average, 53,520 acres are covered by the crop and 8,550 tons of oilseeds are produced But Table 9 8 shows that gradually area under the crop is increasing In 1954-55, the acreage has come up to 80 2 thousand acres

60

Til—Only some 0 1 per cent of the total cropped area of the State, is used for growing the crop Til is grown in this State both in summer and winter *Winter Til* is grown generally in Nadia, Murshidabad, Burdwan, Bankura, Birbhum, Midnapore, Malda and West Dinajpur covering on an average over some 9 1 thousand acres and some 47 9 thousand md of oilseeds are produced (Table 9 11) It may be seen that between 1947-48 and 1952-53, the area gradually declined from 11 4 thousand to 6 0 thousand acres and production from 57 7 thousand to 33 6 thousand mds

61

Summer Til—It is grown in Murshidabad, Bankura, Birbhum, Burdwan, Midnapore and Hooghly, covering, on an average, some 9 1 thousand acres and some 48 7 thousand mds of oilseeds are produced

62

For summer Til, between 1947-48 and 1952-53, the acreage fluctuated between 15 0 thousand and 6 3 thousand acres and production between 82 5 thousand and 36 4 thousand mds (of oilseeds)

63

Remaining oilseeds—In this State, castor, ground-nut, etc ,are also grown but they cover only small areas No detailed current estimates regarding these crops are available separately But it is estimated that on an average, roughly, some 0 2 per cent of the total cropped area of the State is being used for growing such other oilseeds

64.

Wheat, maize, barley, etc (cereals other than rice)—As has been stated, all these crops taken together cover only 2 42 per cent of the total cropped area of the State Out of this 2 42 per cent, 0 80 per cent is under wheat, 0 55 per cent under barley, 0.76 per cent under maize, 0 11 per cent. under Ragi and the remaining 0 20 per cent under Jowar, Bajra, etc It may be noted that in respect of acreages covered by the different foodgrain crops, next to Aus comes wheat followed by Maize, barley, Boro and so on

65

Wheat—38 22 per cent of wheat production comes from Murshidabad, 14 73 per cent from Nadia, 12 21 per cent from Malda, 9 16 per cent from Bankura, 8 53 per cent from Birbhum, 5 52 per cent from Cooch Behar, 4 90 per cent from Burdwan and the remaining 6 73 per cent from the other seven districts It is seen that nearly two-thirds of the production comes from Murshidabad, Nadia and Malda and for which 2 98 per cent, 1 76 per cent and 1 41 per cent respectively of the total cropped areas of the districts are utilized (Table 9 4)

66

On an average, 106,000 acres are used for growing wheat and average production is 30,820 tons Area under wheat in 1947-48 was 90,700 acres, in 1952-53 it came up to 1,06,400 acres and in 1954-55 it was 141,000 acres

67

U P contributes 39 2 per cent, Punjab 18 0 per cent and M P 8 1 per cent of the All-India production of wheat (Table 9 6) whereas this State contributes only 0 5 per cent As far as yield rate is concerned, for All-India it is 7 6 md / acre, for U P 8 7 md /acre, for Punjab 10 9 md /acre and for West Bengal 8 2 md /acre Table 9 5 shows how low these yield rates are compared to those of countries like Denmark (36 67 md /acre), Belgium (35 26 md /acre), U K (28 46 md /acre), New Zealand (28 08 md / acre), Egypt (20 76 md /acre) and Japan (20 03 md /acre)

68

Barley—43 12 per cent of barley production comes from Malda, 38 90 per cent from Murshidabad, 6 34 per cent from Nadia, 5 31 per cent from West Dinajpur and the remaining 6 33 per cent comes from the ten other districts On an average, some 74,000 acres are under the crop and the production is 23,100 tons In 1947-48, the acreage covered by the crop was 58,000 acres, in 1948-49 it was 57,200 acres but gradually the cultivation of the crop has gained importance In 1951-52 it covered more than one lakh acres and in 1953-54 and 1954-55 also the acreage estimates for the crop have remained over one lakh acres

69

Maize—70 21 per cent of total production of maize in the State grows in Darjeeling, 16 92 per cent in Malda, 3 72 per cent in Jalpaiguri, 1 96 per cent in Birbhum, 2 31 per cent in Midnapore, 1 84 per cent in Bankura and the remaining seven districts (excluding Cooch Behar) contribute other 3 04 per cent Production of maize in Howrah and Cooch Behar is negligible For this crop, Darjeeling uses 27 8 per cent of its total cropped area, Malda 2 0 per cent, and Jalpaiguri 0 7 per cent Other 11 districts use only very small fractions of their total cropped area for the crop In the northern districts, the crop constitutes staple food In 1947-48, area under the crop was 87,300 acres but with the progress of cultivation, during the current years, the estimate remains over one lakh acres

(*) 3 mds. of mustard seed is necessary (generally speaking) to produce 1 md. of mustard oil.

70
Only 1 2 per cent of the total production of maize in India comes from West Bengal, 27 2 per cent. from U P , 13 8 per cent from Bihar, 14 0 per cent from Punjab, 5 6 per cent from Bombay (Table 9 6).

71
Average yield rate of the crop in West Bengal is ony 8 4 md /acre Yield rates of the crop in other countries like U S A (25 51 md /acre), Egypt (22 30 md /acre), Italy (19 88 md /acre), etc , show how low is this yield rate

72
Ragi, Jowar, Bajra, etc —These are still minor crops of the State Nearly 75 per cent of the area under Jowar comes from Murshidabad Some other districts like Nadia, Hooghly, Midnapore, Malda, Burdwan and 24-Parganas use only a few scattered acres for growing the crop The crop is not grown in Bankura, Jalpaiguri, Darjeeling and West Dinajpur On an average, area covered by the crop is 5,400 acres and production is 1 9 thousand tons

73
On an average, only some 1,100 acres are used for growing Bajra Murshidabad and Malda grow the crop each year, though negligibly. At times, in Birbhum and Bankura only few acres are put under the crop

74
Since partition, area under Ragi has increased. Between 1947-48 and 1952-53, the area rose up from 5,700 acres to 23,600 acres The crop is produced in Darjeeling district only

75
Tea —Roughly, some 1 49 per cent of the total cropped area of the State goes for growing tea, a major cash crop Tea grows in limited areas of the world but has a very big market

76
Roughly speaking, nearly half of the world's tea production comes from India West Bengal contributes nearly 29 per cent of India's total tea production, Assam 53 per cent , Madras and Andhra 8 per cent , and Travancore-Cochin 8 per cent

77
The following table shows the area under and production of tea in West Bengal —

Table C,

Area and Production of Tea in West Bengal

	1947 48	1948-49	1949-50	1950-51	1951 52	1952-53	1953 54	1954 55	1955-56
Area (in thousand acres)	194 0	194 0	196 0	198 0	198 3	193 8	192 5		
Production (in thousand lb)	153,665	150,238	166,136	177,463	180,799	228,485	162,665		
Yield rate (in lb/acre)	806	810	883	916	912	1,179	845		

78
Tea is a perennial crop but after some years, old trees are removed and new trees are planted The commonly known commodity tea, comes mainly from the two leaves and a bud of each branch

79
In West Bengal, tea is grown only in Darjeeling, Cooch Behar and Jalpaiguri districts The following table shows the average relative contribution of the different districts —

	Percentage share of area under tea in the State	Percentage share of production of tea in the State
Darjeeling	32 0	17 8
Jalpaiguri	67 8	82 1
Cooch Behar	0 2	0 1

80
Tea grows on the terraces that get enough rainfall but does not suffer from water-logging Temperature of this sub-Himalayan region does not rise up much even in summer Tea cultivation has changed the landscapes of these areas Previously, this region was full of forests and swamps, now neat terraces, green with bushy tea plants, are common sight Yield rate decreases with increase in altitude but quality improves Consequently, tea grown in different areas are associated with the names of the areas, such as Darjeeling tea, Duars tea

81.
Pulses (excluding gram) —All pulses (including gram) are leguminous crops (i e , they can fix nitrogen from air and deposit in the nodules at their roots Crops like Dhaincha, sunnhemp, etc , are also leguminous This deposited nitrogen is, of course, subsequently used up along with extra food from soil For this reason before Dhaincha, sunnhemp, etc , use up their deposits, they are ploughed down as green manures so that the soils may get enriched with such nitrogen in nodules.)

82
Pulses cover 7 88 per cent of the total cropped area of the State Out of this some 1.9 per cent goes under Khesari, 2 1 per cent under Masur, 2 9 per cent under Maskalai and the remaining 0 98 per cent under other varieties of pulses (like Mung, Matar, Tur or Arhar, etc)

83
On an average, 18 70 per cent in Malda, 16,82 per cent in Nadia, 16 75 per cent in Murshidabad, 9 72 per cent in Howrah, 8 67 per cent in 24-Parganas, 6 80 per cent in Hooghly, 5 23 per cent in West Dinajpur, 5 14 per cent in Midnapore, 4 23 per cent in Birbhum, 4 06 per cent in Cooch Behar, 3 36 per cent in Burdwan, 2 70 per cent in Bankura, 1 80 per cent in Jalpaiguri and 0 40 per cent in Darjeeling of the respective total cropped areas are used for growing pulses. As regards distribution of production of pulses it is seen that 23 47 per cent of total production comes from Murshidabad, 15 05 per cent from Malda 13 76 per cent from Nadia, 13 11 per cent from 24-Parganas, 11 60 per cent from Midnapore and remaining 23 02 per cent from the other nine districts

84
21 5 per cent of total acreage under pulses comes from Murshidabad, 14 9 per cent from Malda, 14 1 per cent from Nadia, 14 1 per cent from 24-Parganas, 11 7 per cent from Midnapore, 4 1 per cent from Hooghly and the remaining 19 6 per cent from the other eight districts.

85
Pulses are grown both as *Rabi and Kharif* crops But the major bulk of pulses is grown as Rabi crops On an average acreage under *Rabi pulses* were 1,021,800 acres and 23,370 acres were under *Kharif pulses* Usually, pulses are not grown in Kharif season in Malda Murshidabad contributes some 42 88 per cent , Cooch Behar 15 32 per cent , Burdwan 5 65 per cent , Bankura 13 18 per cent , Jalpaiguri 3 85 per cent and Midnapore 5 35 per cent , of the total area under Kharif pulses

86

Rabi pulses contribute nearly 97 6 per cent of the total pulse production of the State On an average, Murshidabad contributes 22 82 per cent (214,700 acres), 24-Parganas 13 42 per cent (147,300 acres), Nadia 14.06 per cent (147,500 acres), Malda 15 42 per cent (156,000 acres), Midnapore 11 77 per cent (121,200 acres), Birbhum 3 50 per cent (36,400 acres), Burdwan 3 99 per cent (39,500 acres), Hooghly 2 56 per cent (42,400 acres) and the remaining six other districts 6 46 per cent (116,800 acres)

87

Potato —Potato covers only some 0 78 per cent of the total cropped area of the State On an average, some 93,200 acres are used for growing the crop Hooghly puts 5 01 per cent, Darjeeling 2 06 per cent, Burdwan 1 45 per cent, Howrah 1 37 per cent, Birbhum 0 97 per cent and Jalpaiguri 0 51 per cent respectively of their total cropped area under the crop Other districts also grow potato, but they all use less than 0 5 per cent of their total cropped areas for the crop

88

Hooghly contributes 34 37 per cent, Burdwan 16 63 per cent, Midnapore 9 66 per cent, Birbhum 6 94 per cent, 24-Parganas 5 10 per cent, Murshidabad 4 81 per cent and the other eight districts contribute the remaining 22 49 per cent. of the total production of potato in the State

89

Excepting on the hills of Darjeeling district, the crop is grown in the winter as a Rabi crop. But on the hills of the Darjeeling, the crop is grown even in summer also However, the most of the produce comes from the winter variety Darjeeling avails some 3,000 acres for growing summer potato

90

West Bengal grows some 22 5 per cent of the total production of potato in India, U P grows 35 8 per cent, Bihar 16 2 per cent, Assam 7 6 per cent and Bombay 4 9 per cent Referring to average yield rate of the crop, it is seen that on average West Bengal gets 102 53 md /acre compared to 105 07 md /acre of Punjab, 105 07 md / acre of Bombay, 78 94 md /acre of U P and 76 22 md /acre of Bihar But in view of yield rates of other countries like Netherlands (258 02 md /acre), Belgium (241 48 md /acre), Ireland (220 89 md /acre), U K (198 66 md /acre), Egypt (163 70 md /acre), etc, it comes out clearly that the State can proceed far ahead in pursuit of better potato cultivation

91

Potato is a popular tuber crop But, as the matter stands at present, the crop in this State is not given that importance as is given to it in European countries with heavy population

92

Sugarcane —Some 0 42 per cent of the total cropped area of the State goes under sugarcane Once grown, it can occupy the land for more than one year On an average, no district uses even 1 per cent of its total cropped area for growing the crop Murshidabad covers 18 00 per cent, Burdwan 17 83 per cent, Birbhum 12 30 per cent, 24-Parganas 10 34 per cent, Midnapore 8 02 per cent, Nadia 7 49 per cent, Malda 7 31 per cent and the other seven districts 18 33 per cent of the total area under sugarcane in the State (on an average 56,300 acres)

93

Burdwan contributes 18 64 per cent, Murshidabad 17 50 per cent, Birbhum 10 90 per cent, 24-Parganas 10 51 per cent, Midnapore 8 40 per cent, Nadia 7.98 per cent. and Malda 6.76 per cent of the production of sugarcane in the State (on an average 945,000 tons of cane).

94

West Bengal produces only 1 8 per cent of the total production of sugarcane in India, U P. produces 51 0 per cent, Bombay 10 4 per cent., Punjab 7 7 per cent, Bihar 4 4 per cent and Orissa 1 9 per cent of the production of sugarcane in India but yield rate (of cane) per acre in West Bengal is roughly about 460 0 md /acre, in U P. 304 9 md /acre, Bombay 771 7 md /acre, Punjab 311 9 md /acre, Bihar 193 0 md /acre and in Orissa 490 8 md /acre This clearly suggests that West Bengal is not lagging behind in growing sugarcane due to ecological unsuitability([3])

95

Establishment of a few sugar mills in suitable quarters (like Burdwan, Birbhum, 24-Parganas, Malda, etc) can go to increase the cultivation of the crop in the State

96

In some experimental plots at Burdwan State Agricultural Farm, yield rates as high as 2,000 md /acre have been recorded Though such high yield rates cannot possibly be expected everywhere in the State, the average yield rate can possibly be raised Such enhanced yield rates can only bring the position of the State nearer to those of the countries like Hawaii (1,689 00 md /acre), Java (1,529 76 md /acre), Peru (1,119 83 md / acre) and Egypt (828 03 md /acre) in the matter of yield rate of the crop

97

Tobacco —Though tobacco is a very important cash crop, it covers only 0 38 per cent of the total cropped area of the State It is a winter crop On an average, some 45 thousand acres are used for producing some 13 thousand tons of tobacco

98

Cooch Behar puts some 5 31 per cent, Jalpaiguri 1 17 per cent, Malda 0 25 per cent, West Dinajpur 0 16 per cent, Darjeeling 0 12 per cent and Nadia 0 11 per cent (other districts less than 0 1 per cent) respectively of their total cropped area under the crop Birbhum does not grow the crop.

99

Of the total area under tobacco, Cooch Behar has 63 54 per cent, Jalpaiguri 18 12 per cent, Malda 4 70 per cent, 24-Parganas 3 36 per cent, and the other nine districts have the remaining 10 30 per cent Thus 81 66 per cent of the area under the crop is in Cooch Behar and Jalpaiguri

100

Cooch Behar contributes 59 19 per cent, Jalpaiguri 17 53 per cent, Malda 5 84 per cent, 24-Parganas 4 54 per cent, and the other nine districts contribute remaining 12 90 per cent. of the total production of tobacco Thus Cooch Behar and Jalpaiguri contribute 77 27 per cent of the total production of the State

101

West Bengal produces 5 0 per cent of the total production of tobacco in India, Andhra produces 39 8 per cent, Bombay 22 4 per cent, Madras 9 1 per cent, U P 6 6 per cent, Bihar 5 0 per cent and Assam produces 2 5 per cent Madras grows 13 61 md /acre, Punjab 9 1 md /acre, Assam 8 44 md /acre, Bihar, Orissa and Andhra 8 17 md /acre, West Bengal 7 62 md /acre and Bombay grows 7 08 md /acre Average yield rate of tobacco per acre in India is 7 89 md

([3]) It is usually considered that 1 md. (i e., 40 srs) of cane yields 4 srs. of Gur However, for better quality of cane, more than 4 srs. of Gur may be obtained from 1 md of c

102.
Compared to other tobacco growing countries like France (18 54 md /acre), U. S A (14 71 md./acre), Italy (14 60 md /acre), etc., the yield rate of the crop comes out to be very low in this State

103
Cotton—Looking at the extent of Cotton cultivation in the State, as it stands at present, it seems that the crop is going to vanish slowly Gradually lesser and lesser areas are being put under the crop It has been reported that the State has been found quite capable of producing good quality of long staple (7/8 inches to 31/32 inches) cotton. Experiments suggest that cotton may be grown as a mixed crop with Aus, gram, etc , and yield rates may not be lower for either of them for mixed growing Cotton can be grown as a mixed crop, first with Aus, and after the harvesting of Aus, a Rabi crop can be grown in the same field

104
However, in spite of low acreages used in West Bengal, comparing the yield rates of cotton of different States, it is found that West Bengal produces 1 19 md /acre, Bombay 0 91 md /acr, Madhya Pradesh 0 81 md /acre, Madras 1 57 md /acre and Andhra produces 0 62 md /acre

105
Contribution of West Bengal towards the total production of cotton in India is negligible The production can be increased considerably if better marketing facilities are available

106.
The factors that lie behind the decrease of cotton cultivation are mainly the following:-

(i) Low market price of seed cotton

(ii) Want of good seeds

(At present mainly Parbhani-American variety of cotton is grown in this State)

107
Cinchona—It grows on the hills of Darjeeling district and is used for extraction of quinine The following table shows the acreage under the crop.—

1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
7,800	4,100	4,400	6,000	5,000	5,000	5,000

108
Different types of *drugs and narcotics* that are grown in this State cover, on an average, nearly some 244,000 acres

109
Cardamom grows on the foot hills of Darjeeling On an average, the crop is grown over some 4,600 acres and annual production comes out to be 25,000 mds Table D shows that in 1955-56, the crop covered some 3,480 acres

110
Chillies cover some 14,000 acres and produces, on an average, 38,000 tons of green chillies, i e , 9,500 tons of dry chillies (usually ¼ of the green weight of chillies is taken as the weight of dry chillies) *Ginger* is grown over some 1,000 acres and annual production of dry ginger comes to be only some 500 tons

TABLE D.

Area under Spices, 1955-56

(Area in acres)

	Districts	Turmeric or Halud	Ginger or Ada	Red pepper or chillies (*)	Long pepper or pipul	Cumin or Jira	Fenu greek seed or Methi	Coriander or Dhania	Anise or Mouri	Onion or Piaj	Garlic or Rasun	Cardamom or Elach	Total.
1	24-Parganas	260	40	2,600	(2)	90	10	190	10	2,080	130		5,410
2	Nadia	320	30	1,400				980		650	120		3,500
3	Murshidabad	780	50	1 000			10	480	20	2,840	450		5,630
4.	Burdwan	120	130	300			180	610	10	1,110	190		2,600
5	Birbhum	40	100	200	(4)	10		30	10	1,010	220		1,620
6	Bankura	30	30	700				90		1,680	150		2,680
7	Midnapore	560	280	2,100		20	10	310	210	2,030	310		5,780
8	Hooghly	190	50	100		.		210		5,470	300		6,320
9	Howrah	110	20	100				30		310	10		580
10	Jalpaiguri	50	20	400		.		30		240	120		860
11.	Darjeeling	80	300	200	(4)			10		560	140	3,480	4,770
12	Malda	120	10	700				400		1,270	50		2,550
13	West Dinajpur	160	80	4,400				50		1,420	290		6,400
14	Cooch Behar	50	100	1 800				10	10	410	280		2,660
	Total West Bengal	2,870	1,190	16,000	10	120	160	3,430	270	21,080	2,760	3,480	51,370

111.
Mulberry trees are grown mainly in Murshidabad, Malda, Bankura, Birbhum and Midnapore Of course, stray trees are found in other districts also In these concentrated mulberry areas, sericultural centres have grown up (⁴) Roughly, some 8,000 acres are utilized for growing mulberry, a perennial crop

112
Some fruits and vegetables are grown every year During winter season, many types of such crops are grown almost throughout the State For such crops also, detailed estimates regarding individual crops are not known exactly Most of these crops are annual or rather seasonal and as such, area under them fluctuates with weather conditions. Though during winter, a large number of varieties of vegetables are grown, other seasons are also utilized for growing some or other types of vegetables

113
As an individual fruit crop, mango has an important place in the State Roughly speaking, mango trees cover some two lakh acres of land (†) Heavy concentration of mango trees are found mainly in the districts of Malda, Nadia, Murshidabad, 24-Parganas, Burdwan, Hooghly, Birbhum and Bankura Of these districts, Malda and Murshidabad are widely known for their quality mango fruits. It is estimated that roughly some 7 lakh tons of fruits(†) are annually produced in the State Of course, yield of mango fluctuates considerably from year to year

114.
Jack-fruit is another popular fruit crop of the State Lichi, guava, black berry, rose berry, lemon, bael. tamarind, sop, etc , grow quite widely in the State and cover some 1 0, lakh acres (†)

[(*) Average of estimates for the years 1952-53 to 1954-55.]

(⁴) The silkworm, i e , larvae of silk moth that gives cocoon of silk are fed on mulberry leaves.

(†) Denotes "Estimates giving rough ideas only".

115.
Orange, pears, etc., grow in Darjeeling district. According to rough estimates, some 7,000 tons of oranges, 11,000 tons of pine apples, 1,14,000 tons of bananas, etc., are annually produced in the State.(†) Area under banana is roughly 18 8 thousand acres (†)

116
Cocoanut, palm, date palm and arecanut — Cocoanut(†) is grown widely in the lower districts of the State Concentration of cultivation is heavy mainly in the districts of 24-Parganas, Howrah and Hooghly Midnapore, Nadia, Burdwan and Murshidabad are the other districts that account for the remaining area under the crop The other districts grow very little of cocoanut Area under cocoanut is roughly some 16,500 acres and annual production is some 222 lakh nuts Nuts are used at the green stage for the drink they contain Apart from this, some mature nuts are used for extraction of oil and preparation of coir And roughly some 1 35 lakh gallons of cocoanut oil is annually produced (†)

117
Date palm (†) and palm (†) also are grown in this State 24-Parganas, Nadia and Burdwan are main districts that grow these crops Other districts also grow the crops and the total acreage is some 14,300 acres It has been estimated that some 1,695,000 palm trees and 1,580,000 date palm trees are there in the State

118
Nearly 4,467 acres are under arecanut Cooch Behar and Jalpaiguri are the main arecanut-growing districts and rear 72 69 per cent of the total number of arecanut trees of the State 24-Parganas, Midnapore and Howrah also grow some arecanut trees (24 74 per cent of the total number of trees of the State) The other districts have little area under the crop

119
Arecanut is grown quite extensively in orchards It has been found that 99 08 per cent of the total number of trees grown in orchards of the State are in Jalpaiguri and Cooch Behar districts

120
All trees are not capable of growing nuts The following table shows the distribution of the trees —

	Grown in orchards	Grown isolated	Total
Bearing	883,135	1,107,982	1,991,117
Non-bearing	84,338	134,380	218,718
Sapling	306,869	744,305	1,051,174
Total	1,274,342	1,986,667	3,261,009

121
Total annual production of dry nuts (without shell) has been estimated at 51,440 md and average annual yield rate of dry nuts per bearing tree comes out to be 1 04 sr

122
Betel (Pan) —Betel(†) leaves form quite a popular commodity It grows mainly in Howrah, Midnapore and Nadia districts 24-Parganas and Hooghly also use some area for the crop Compared to these districts, other districts put small areas under the crop Roughly speaking, some 8,000 acres are covered by the plantations

123
Spices —Turmeric, ginger, pepper, corriander, etc , are grown in this State But the extent of cultivation of the crops is not extensive Table D shows the area under some of the varieties of spices that are grown in the State. Acreages shown under ginger and red pepper are averages of three years' data (1952-53 to 1954-55) As statistics regarding the other varieties are not collected regularly, a rough survey was taken up during the year 1955-56. The estimates quoted in the table refer to the results obtained during the survey. Onion covers the largest area (about 21,100 acres) and next to it comes red pepper (16,000 acres) Corriander covers 3,400 acres, turmeric about 2,900 acres, garlic about 2,800 acres, ginger about 1,200 acres and others cover about 600 acres Cardamom is only grown in Darjeeling district

(†) Denotes "Estimates giving rough ideas only"

124
Excepting onion and red pepper, other crops individually cover small acreages But it has been reported that such crops have quite favourable agronomic prospect in this State.

125
Drugs and narcotics —Various types of trees are found in the State which are used for extraction of drugs and narcotics Kurchi, Basak, Harina, Chireta, Sonalu, Indian hemp, opium, etc , are found in the State Some 2 4 lakh acres are estimated to be under crops that are or may be used for extraction of drugs and narcotics.

126
Various types of *bamboos* are grown in the State Excluding Sunderbans in the south and places having an altitude of more than 6,008 ft on the hills of Darjeeling in north, bamboo is grown quite extensively

127
Cane also is grown in some areas but their quality is not very good Such canes are used mainly for basket making *Mat grass* also is found to be growing in certain areas of which Midnapore and Burdwan have earned reputation Mats of very good quality are being produced in Midnapore district

128
Palas, Pepul, Babul, banian, etc , trees are grown in western portion of Malda, Murshidabad, Bankura and Birbhum districts Tiny lac insects leave resinous incrustations on soft branches of these trees From this substance, lac is obtained by chemical processing

129
Camphor, Tejpata and cinamon trees can thrive also in the State but they are not grown extensively Usually, they grow suitably on hill sides and well-drained valleys where rainfall is heavy But plains have also been reported to be quite suitable for their growth

130
It will be seen that percentage share of contribution of West Bengal towards all-India total production may not be heavy for each crop but the crops that are grown in the State have good yield rates compared to other States This shows that (ecologically) many minor crops can be grown much extensively.

131
Minor crops of this State may be taking only a minor share of total cropped area but it does not mean that their demands also are minor and economically, they are not important But the following table will show partly their economic significance and why the State cannot afford to lose the opportunity in trying to grow these lesser grown crops, especially oil seeds, pulses,

condiments and spices, sugarcane, etc, more and more:—

Table E.

Estimated net annual imports into West Bengal and their value at current market rates (1953 54) (*)

Item.	Net import in maunds	Value (in rupees)
(1) Rape and mustard (seed)	3,462,000	6 57 crores.
(2) Linseed (seed)	498,700	74 70 lakh.
(3) Til (seed)	55,000	10 17 lakh
(4) Groundnut (seed)	504,700	60 48 ,,
(5) Castor (seed)	69,600	6 96 ,,
(6) Potato	1,982,000	1 79 crore
(7) Gur	1,011,000	1 40 ,,
(8) Turmeric	200,000	1 48 ,,
(9) Coriander	400,000	92 00 lakh
(10) Chillies	250,000	1 32 crore
(11) Black pepper	42,500	64 00 lakh
(12) Betel-nut (arecanut)	250,000	2 75 crores
(13) Pulses	3,432,000	3 43 ,,
(14) Sugar	3,744,000	11 98 ,,
(15) Mustard oil	500,000	2 20 ,,

132
Table 9 14 presents a rough picture regarding the extent of cultivation of some major crops It covers the period from 1936-37 to 1954-55 It shows the changing pattern of utilisation of the total cropped area and the relative importance of the different crops with reference to acreages used for growing them In 1941-42, the total acreage under rice was 75 70 lakh acres and it constituted 79 02 per cent of total cropped area In 1952-53, the total acreage under rice rose up to 102 07 lakh acres, but, owing to rise in cropped area, it constituted only 72 68 per cent of total cropped area

133
Before concluding this chapter, one particular aspect regarding crop production may casually be referred to Noticing the list of crops grown in this State and remembering that the State is agronomically capable of growing many crops, one may wonder, "Why only paddy is given that importance?" or "Why not cultivators put more acreage under other crops of economic importance?" A layman, looking at the volume of import of agricultural commodities (e g , vegetable oils, sugar, condiment and spices, fruits, betel-nut, coir, etc) from other States, may grow an impression that perhaps these cannot be grown well, at least economically, in the State

134
Obviously, this issue is of great significance and deserves deep consideration It is controlled by several factors and the discussions leading to solutions may become lengthy and controversial views may crop up Moreover, the study does not directly come within the purview of this book But a few relevant points (though they do not cover all aspects) are only mentioned below, viz —

(*a*) Cultivators may have some eagerness to grow new crops but for having an outlook to take up some such definite ventures, they may like to see demonstration plots (in the vicinity) growing such crops successfully

(*)Obviously, this table shows only a part of the list of the agricultural commodities that are imported

(*b*) The produce must find good market so that the cultivators may not have to bother much over the marketing problem A cultivator who has to bother a lot about marketing, over and above his own production problem, may not feel inclined, at least if he owns a small holding, to take up new ventures (which need money that he has little) in the line of better or modified utilisation of land (It has been reported that cotton has become so minor a crop mainly because cultivators had great difficulty in disposing of the produces.)

(*c*) A man, dealing with agricultural produces, has his own problems. When a new or a minor crop is grown in a scattered way over a big area, he finds it expensive to collect such produces. Moreover, he may have existing markets for buying and selling his commodities He, obviously, needs some assurance regarding the supply (and its nature) of a commodity before he can start setting up necessary marketing arrangements in new areas At the same time, he must find his own markets to dispose of (with reasonable profit) commodities acquired from new areas

(*d*) Leaving aside the question of inter-country trade, nowadays the competition in markets is not an intra-State issue but is an inter-State issue. As such cost of production (including transportation charges) of a commodity need be considered before production of anything new is taken up

(*e*) Roadways (and other channels of transportation) play a dynamic role in developing agriculture Big roads with network of feeder roads are essential for arranging cheap and efficient transportation of the produces from fields to the consumers

(*f*) Apart from the problem of cheap and efficient transportation of commodities from the producing to the consuming centres, there is the problem of middlemen Often it is charged that it is the middlemen who extract out the bigger share of profit by controlling the operation of supply of produces to the consumers

It is said that if cultivators got more and middlemen got lesser then, obviously, agriculture would have been much more paying and, as such, it could have improved automatically To get at this end, co-operative bodies of cultivators can play an important role

(*g*) Of course, with the problem of making agriculture more paying, other important factors like rural indebtedness, size of holding, cost of cultivation, cost of living, etc , come up obviously. And, in fact, several experts and committees have studied at different times the agro-economic problems quite in details and have given their views regarding suitable steps leading to the solution However, net income per acre must increase to raise the purchasing power of a cultivator at least to a level so that he can be assured of adequate nutrition and something more

(*h*) New industries (rural mostly) need be started for opening new (or expanded) markets and presenting incentive to cultivators to proceed on new lines (e g , sugar-making, cotton-ginning and cotton seed crushing, tobacco seed crushing, etc , in areas suitable for respective crops) Storage arrangements for perishable commodities are also important Cheap power supply can go to help in developing such industries which in turn can promote agricultural development

(*i*) Unless minor crops are grown more, paddy, that constitutes staple food, will have its own importance This, perhaps at least to some extent, stands on the way of having a keen urge for getting more paddy per acre Opening up of new prospects may encourage the cultivators to use their lands in a modified fashion Depressing economic conditions that check up the movement

towards general economic prosperity need be eased out for transforming the present cultivators to progressive ones

135

Incidentally, it may be mentioned that the Government are considering these problems and steps are being taken to initiate the solutions. Many minor crops may soon have extended cultivation in the State The gestures of the Government towards these points may take some time yet to bear sizable fruit, but, nonetheless, they are coming up Such changes are of great significance for the State as on that, to a great extent, rests the bearing of the State economy

136

Incidentally, it may further be mentioned here that one may think that by using manures and fertilisers and by providing irrigation (or drainage) facilities, yield rates can be boosted up to a very great extent But it must be borne in mind that such provisions cannot increase yield rates to an unlimited extent Several factors control yield rates Capability of assimilation of nutrients of a variety has a direct bearing on yield rates In view of this, the problem of production cannot but depend on research workers who help in introducing new varieties, prescribing manurial and irrigation doses etc Table 9 15(A) shows the nature of increase of population in the State Table 9 15(B) shows how the number of births per month is increasing and number of deaths are decreasing gradually In general, better health and medical facilities are bearing fruit Rate of infant and child mortality is decreasing Average expectation of life is rising up (⁵) Consequently, at present, daily more than 970 new mouths are being added to the population of the State (excluding immigrants) Requirement of food is increasing along with the increase in population If the rate of production of food cannot be raised up with the increase in the population, the State will always remain a deficit area (⁶) In view of all this, it comes out clearly that in the agricultural sector, the pressure for more production is becoming very severe The State must face it squarely, otherwise, in near future a mighty disaster may spread a grim spell If, to feed the population, food has always to be procured from outside, the economy of the State may have a very unfavourable impact

137

Thus, either with the efforts for betterment higher rates of production must be obtained or there surely will be a decline in the standard of living and nutritional level of diet (which already is not adequate)

138.

As due importance has also to be attached to the dietary condition of the people, the problem of food production gets further complicated Usually, more land has to be used for producing a well balanced diet containing sufficient protective food than an ill-balanced diet of same calorie value in form of cereals alone

139

So it is necessary to evolve and introduce new varieties of crops capable of giving higher yield rates Optimum time and dose of application of irrigation need be practised Crop rotations, suitable to different soil climatic zones (with reference to irrigation and drainage facilities), need be practised Thus, a series of detailed consideration need, on a wide scale, be given for planning the best suited methods and nature of exploitation of available land The national problem of requirements need be retained at the front but at the same time it has to be seen that cultivators may have increased income per acre of land If both these ends do not meet together then "the abolition of the poverty of the cultivators and the abolition of the poverty of the soil" cannot be achieved and as such, agricultural economy will not attain a healthy status

140

Factually speaking, it is almost impossible to forecast the actual would be picture of the food production, as it depends greatly on several natural factors This leads one to study keenly the nature of increase in population The Famine Enquiry Commission commented "Ultimately a decrease in the rate of population growth is not only desirable but necessary" Without going into the discussion on this complicated question, it may only be said that the growth of population deserves a closer study, not only for safeguarding against famine, starvation and malnutrition but also with reference to its social and other implications

141

It is true, this small State has not enough area to grow all crops in abundance and has a gigantic task lying ahead of her But, it has to be admitted that it still has a prospect to move far ahead in the line of agricultural development Better mode of utilisation of land, use of fertilisers, manures, irrigation and drainage facilities, adoption of suitable crop rotations, introduction of new varieties, use of good seeds, etc , all taken together in a co-ordinated plan, bear the promise of opening up of possibility of growing more crops more economically

(⁵) Expectation of life at birth was 21 52 years in 1911, 24 86 years in 1931 and 35 60 years in 1949

(⁶) Tables of food production and requirement show that narrow is the margin between bare adequacy of food supply and disaster

CHAPTER X

(Livestock)

(Tables 10.1 to 10.7.)

1\. According to data published in the Statistical Year Book, 1952, by the United Nations, it comes out that 22 24 per cent of cattle, 1.49 per cent. of pigs, 2 52 per cent of horses, 0 40 per cent of mules of the world are reared in India (Table 10 1) As reported in Livestock Census, 1951, 6 7 per cent of cattle, 1 4 per cent of buffaloes, 1 2 per cent of sheep, 8 5 per cent of goats (5 4 per cent of total livestock), 9 3 per cent of fowls and 41 2 per cent of ducks (12 5 per cent of total poultry) of India comes from West Bengal (Table 10 2)

2\. Table 10 3 gives the districtwise comparative distribution of the livestock population of the State for 1945 and 1951 Table 10 4 shows the subdivisionwise livestock population for the year 1951 Table 10 5 shows the livestock population of the State since 1920

3\. In consideration of the size of the State, the numerical strength of cattle population in West Bengal is quite large But unfortunately, the milk-producing capacity of this population is extremely poor Leaving aside the rates of milk production per animal of countries like Great Britain, Belgium, New Zealand, Denmark, U S A , etc , even compared to the other States of India, the average rate of milk production in this State seems to be very low This presents a major problem before the State The following Table (Table A) shows the comparative efficiency of the different categories of livestock in different parts of the world and India —

Table A

Comparative efficiency of different categories of livestock in various countries

Country	Approximate milk yield in lb per cow per year
Netherlands	8,362
Belgium	7,482
Denmark	7,701
U K	6,106
New Zealand	5,610
U S A	5,282
Australia	4,026
India	419

States of India	Approximate milk yield in lb per animal per year (*)			Approximate production of eggs per bird per year (*)		
	Cow.	Buffalo	Goat	Fowl	Ducks	
					Indigenous	Improved.
Punjab	1,445	2,320	440	55	110	56
Delhi	1,270	2,000	110	60	110	(a)
Saurastra	1,000	2,500	200	60	110	(a)
Himachal Pradesh	900	1,200	200	70	120	(a)
U P	625	1,240	125	70	120	100
Bihar	620	1,526	340	60	72	130
Orissa	245	600	200	50	65	127
West Bengal	420	960	80	36	83	75†

4\. Excepting for the hilly regions of Darjeeling district, in general, the cattle of the State are weak, inefficient and of short stature As they are very poor milkers, mostly, on an average, they give only 1 to 2 lb of milk per day per animal No particular breed of cattle predominates the population, rather it may be said that the bulk of population are of non-descript type In Darjeeling, some cattle are of 'Siri' breed but mostly they are of mixed breed However, their average milk-yielding performance is better than that of the stock on the plains Roughly speaking, the stock on the hills are of better type This has been possible mainly due to the stock brought from outside India by the European Tea Planters and others

5\. Buffaloes are, in general comparatively much better milkers than the cows But as a matter of habit, people are generally fond of cow's milk Buffalo milk is generally used more widely in urban and industrial areas It is seen from the respective sizes of the population of cows and buffaloes that in this State cows are preferred to buffaloes

6\. According to reports of the Livestock Census, 1951, there were some 103 85 lakh heads of cattle Out of this population, about 30 50 lakh cows over 3 years, 36 49 lakh males over 3 years and 36 86 lakh young stocks of age 3 years and under The corresponding estimates regarding buffalo show that there were 3 57 lakh males over 3 years, 1 26

(*) Average estimates giving rough ideas of the general condition (a) = Not available

(†) Average number of eggs laid per year per khaki campbell (kept at the Haringhata Farm) came to be 228 in 1953-54, 220 in 1954-55 and 212 in 1955-56.

lakh females over 3 years, 1 36 lakh young stocks below 3 years and under and thus a total of 6 19 lakh buffaloes in all Table C shows the corresponding number of cows and female buffaloes above 3 years and number of cows and female buffaloes in milk per 1,000 people of the State.

Table B.

Different groups of mature Cows and female Buffaloes (*)

Districts	Cows					
	In milk	Dry	Not calved	For work	Others	Total
(1) Calcutta . . .	11,932	4,357	327	38	223	16,877
(2) 24-Parganas	232,329	224,167	39,722	2,315	13,747	512,330
(3) Nadia	83,871	71,952	9,081	75	2,900	167,879
(4) Murshidabad	100,588	90,423	14,599	615	4,563	210,788
(5) Burdwan .	171,028	192,426	33,513	1,803	10,859	409,629
(6) Birbhum .	80,833	95,052	16,788	584	5,373	198,630
(7) Bankura	103,302	144,298	28,311	276	9,440	285,627
(8) Midnapore	165,854	309,879	61,204	4,866	24,754	566,557
(9) Hooghly	106,724	94,343	8 967	115	3,261	213,410
(10) Howrah	43,400	48 580	6,753	197	1,928	100,858
(11) Jalpaiguri	86,464	81,133	17,795	4,614	9,201	199,207
(12) Darjeeling	22,327	18,684	4 849	3,380	2 012	51,252
(13) Malda	48 760	64,254	9 188	4,784	1,963	128,949
(14) West Dinajpur	57,205	63 081	17,661	7,376	7,770	153 183
(15) Cooch Behar	68,744	68,318	12,597	6,550	8,303	164 581
Total West Bengal	1,383,451	1,570,947	281 405	37,597	106 357	3,379,757

Table B—contd.

District	Buffaloes (female)					
	In milk	Dry	Not calved	For work	Others	Total
(1) Calcutta	9,283	1,844	40	15	75	11,257
(2) 24 Parganas .	8,488	5,900	789	1,010	354	16,541
(3) Nadia	2,029	1,866	161	30	109	4,195
(4) Murshidabad	3,229	2,277	237	360	117	6,220
(5) Burdwan	6,889	5,316	1,140	335	361	14,041
(6) Birbhum	2,368	1,651	331	316	99	4,765
(7) Bankura	12,083	12,380	2,461	236	970	28,130
(8) Midnapore	6,510	6,510	1,661	582	541	15,804
(9) Hooghly	1,727	622	31	27	48	2,455
(10) Howrah	3,230	727	265		47	4,269
(11) Jalpaiguri	4,952	4,329	4,888	1,126	561	11,856
(12) Darjeeling	1,009	1,112	202	82	72	2,477
(13) Malda . .	1,594	2,051	227	1,887	108	5,867
(14) West Dinajpur . . .	655	1,008	124	1,520	106	3,413
(15) Cooch Behar . ..	3,637	3,560	717	166	365	8,445
Total West Bengal ..	67,683	51,153	9,274	7,692	3,933	139,735

(*)Cows and female buffaloes of less than 3 years in age have been included in this table when according to available information they have been reported to be used for breeding, working, etc.

Table 6.

Number of cows and buffaloes in the State per 1,000 person

	Number of animals per 1,000 persons			Number of animals in milk per 1,000 persons		
	Number of cows	Number of buffaloes	Total cows and buffaloes	Number of cows	Number of buffaloes	Total cows and buffaloes
	1	2	3	4	5	6
(1) Calcutta	6 6	4 4	11 0	4 7	3 6	8 3
(2) 24-Parganas	111 2	3 6	114 8	50 4	1 8	52 2
(3) Nadia	146 6	3 7	150 3	73 2	1 8	75 0
(4) Murshidabad	122 8	3 6	126 4	58 6	1 9	60 5
(5) Burdwan	186 9	6 4	193 3	78 0	3 1	81 1
(6) Birbhum	186 2	4 5	190 7	75 7	2 2	77 9
(7) Bankura	216 5	21 3	237 8	78 3	9 2	87 5
(8) Midnapore	168 7	4 7	173 4	49 4	1 9	51 3
(9) Hooghly	137 3	1 6	138 9	68 7	1 1	69 8
(10) Howrah	62 6	2 6	65 2	26 9	2 0	28 9
(11) Jalpaiguri	217 7	13·0	230 7	94 6	5 4	100 0
(12) Darjeeling	151 7	5 6	157 3	50 2	2 3	52 5
(13) Malda	137 5	6 3	143 8	52 0	1 7	53 7
(14) West Dinajpur	212 4	4 7	217 1	79 6	0 9	80 5
(15) Cooch Behar	245 3	12 0	257 9	102 4	5 4	107 8
West Bengal	136 2	5 6	141 8	55 8	2 7	58 5

7

Table 10 2 shows that in 1945 there were some 32 35 lakh male cattle over 3 years, 30 99 lakh cows over 3 years, 23 07 lakh young stocks i e, a total of 86 41 lakh heads The corresponding strength of buffaloes were 3 95 lakh males over 3 years, 1 59 lakh females over 3 years, 0 98 lakh young stocks and a total of 6 52 lakh head (of course, Census, 1945, did not cover Cooch Behar)

8

Compared to 1945, in 1951, the total cattle population recorded 39 4 per cent in Calcutta, 157 8 per cent in 24-Parganas, 108 0 per cent in Nadia, 106 8 per cent in Murshidabad, 115 9 per cent in Burdwan, 100 6 per cent in Birbhum, 107 2 per cent in Bankura, 118 9 per cent in Midnapore, 131 8 per cent in Hooghly, 126 3 per cent in Howrah, 167 9 per cent in Jalpaiguri 115 7 per cent in Darjeeling, 124 4 per cent in Malda, 123 8 per cent in West Dinajpur and 120 2 per cent in West Bengal The corresponding percentages with reference to total buffalo population were 32 1 per cent in Calcutta, 140 6 per cent in 24-Parganas, 96 6 per cent in Nadia, 101 2 per cent in Murshidabad, 103 1 per cent in Burdwan, 75 6 per cent in Birbhum, 89 5 per cent in Bankura, 93 7 per cent in Midnapore, 108 0 per cent in Hooghly, 131 6 per cent in Howrah, 100 6 per cent in Jalpaiguri, 106 2 per cent in Darjeeling, 138 1 per cent in Malda, 74 2 per cent West Dinajpur and 94 9 per cent in West Bengal Taking total bovine (cattle and buffaloes) population, compared to 1945, in 1951 the population was found to be 36 6 per cent in Calcutta 157 2 per cent in 24-Parganas, 107 2 per cent in Nadia, 107 2 per cent in Murshidabad, 114 9 per cent in Burdwan, 99 2 per cent in Birbhum 104 8 per cent in Bankura, 118 1 per cent in Midnapore, 131 3 per cent in Hooghly, 126 4 per cent in Howrah, 158 3 per cent in Jalpaiguri 114 9 per cent in Darjeeling, 125 4 per cent in Malda, 117 8 per cent in West Dinajpur and 120 2 per cent in West Bengal

9.

It shows that overall size of cattle population increased by 20 2 per cent during 6 years In Calcutta only, the cattle strength marked a sharp decline and in Birbhum, the population almost remained unchanged In all other districts the population increased, maximum (57 8 per cent,) being in 24-Parganas.

10

The buffalo population came down by about 5 per cent during the period Though the population increased in seven districts, decline in the other areas brought down the overall population For buffalo population also, the maximum rise (40 6 per cent) was noted in 24-Parganas Table B shows the break-up of the different groups of cows and female buffaloes over 3 years It shows that only 40 per cent of mature cows and 42 per cent of mature female buffaloes were in milk on the day of the Census

11

On the date of Census 1951, some 35,300 maunds of milk were available from the cows and female buffaloes On an average, the yield of milk per cow per day was estimated at 1 76 lb and that of female buffalo at 5 76 lb In view of the milk produced on the day, it is seen that the State produces only 1 87 oz of milk per capita per day When compared with the nutritional requirement of milk, which is 8 oz per head per day according to Dr Akroyd, the available supply comes out to be very scanty

12

It may be mentioned that at the time when the Census, 1951, was conducted, due to the seasonal factor, low yielding period was prevailing As such the milk available was recorded low On the basis of average quantity of milk produced, it comes out that average rate of annual milk production is 420 lb per cow and 960 lb per buffalo On an average, each cow is in milk for some 272 days during each lactation and for buffaloes it is some 170 days The estimate of milk production and lactation period noted above are only very rough estimates

13

Compared to the other countries, though the per capita per day requirement of milk has been taken at a very low level, still on an average, the milk production has to be increased 3¼ folds in West Bengal to meet even the bare requirement according to this nutrition level Obviously, the task is not an easy one, especially, when the position of milk availability and size of cattle population of the State are devoid of any parity. The problem would have been much simpler if this deficiency was due to smallness in number of cattle population and not due to poverty of the quality of cattle The problem seems to be more acute as there is every reason to expect that the

unit of per capita per day milk requirement would surely be rising up gradually with general rise in the standard of living

14
The importance of milk, animal fat and protein for having a well-balanced diet needs no emphasis An ill-balanced diet may actually be sufficient in quantity but yet due to lack of various food constituents needed for health it may lead to malnutrition Actually the people of the State depends greatly on cereal consumption Usual little intake of pulse, meat, milk, fish, egg, fats and oils, etc , cannot mostly supplement the other requirements of a well-balanced diet But, obviously, for improving the diet of the people, there must be a great increase in production of the protective food (of course, it has its bearing on purchasing power of the people)

15
Years back, Sir John Russell, reviewing the general dietary position of the Indian people, commented in his report on the work of the I C A R "The well-balanced diet does not require more but less cereals than at present It is essential, therefore, to increase the yield of the staple crops so as to liberate land for the cultivation of these supplementary foods " But the comment still holds good and demands active consideration

16
Another feature that crops up from the poverty of livestock population is that the chief source of the fat in diet of the people mainly has to be derived from the available supply of vegetable oils Hydrogenated vegetable oils are being found to be used more and more while for common men, use of pure butter fat become almost a luxury

17
Comparison of the position of per head per day milk availability in some countries of the world and States of India shows the plight of this State very clearly—

Table D.

Availability of milk per head per day.

Country	Average quantity of milk available per head per day (in oz).	State	Average quantity of milk available per head per day (in oz).
Canada .	18 6	Punjab	16 9
Australia .	13 4	U P	7 2
New Zealand	21 6	Delhi	5 5
U K	15 3	Bihar	4 4
Ireland	16 2	Madras	4 2
Denmark ..	16 4	Bombay	3 0
Netherlands	18 9	West Bengal	2 7
U S A	16 9		

18
This table shows that in spite of having a quite heavy cattle population, only a bare fraction of the requirement of milk can be produced in the State This position cannot fail to draw attention to Tables B and F, which suggest that the State has to feed many useless stock also However, leaving apart the question of the useless, inefficient and poor stock, the problem of future stock may be referred to The burden of unwanted stock of today will be dead in course of time but the picture of future bears a special significance

19
Table E shows the performance of animals at the Haringhata Farm, Nadia It shows that animals of good stock can produce good yield rate of milk in West Bengal also—

Table E.

Performance of buffalo and Hariana (cow) herd kept at Haringhata Farm, Nadia

Year	Number of animals in the herd		Average number of days in milk		Average number of days dry		Average daily milk yield per animal (in lb) in milk		Average daily milk yield per animal (in lb)	
	Cow	Buffalo	Cow.	Buffalo.	Cow.	Buffalo	Cow (†)	Buffalo (†)	Cow (†)	Buffalo (†)
1	2	3	4	5	6	7	8	9	10	11
1951-52	334	48	309	312	112	162	8 97	10 57	6 91	6 98
1952 53	382	48	305	284	138	205	8 99	11 43	6 52	7 21
1953 54	408	53	326	293	124	137	7 86	9 88	5 60	7·11
1954 55	554	76	338	336	147	130	7 74	9 77	5 55	6 77
1955-56	550	70	310	384	141	198	7 20	9 50	4 51	6 47

(†)Milk yielding capacity depends on the age of the animal As their ages are increasing, the milk yields are coming down

20
In the background of such poverty of cattle population lie several serious factors, which, unless controlled or ameliorated, the position cannot change very much Calcutta provides with a big centralised milk market and some 85 per cent of its total milk supply comes from the stock kept within the town The city is in a overcongested state with high cost of living index These raise certain problems of grave concern Cost of production of milk is very high, demand is great and supply of milk is inadequate and consequently adulteration is rampant Calves are neglected and starved Milch cows are ill-kept and poorly fed When a cow runs dry before another lactation, instead of maintaining them well, a greedy section of milk dealers sells the cows for slaughtering and they purchase new milch animals (¹) But all are not slaughtered Many stray cows, calves and bulls are found to crowd on the streets of market areas

21
In rural areas, the problem is somewhat different but, all the same, the problems present quite a dark picture The pressure on land due to increasing agriculture (food and cash crops) leaves little space to be used as grass lands and this brings limitation in providing with adequate food supply to the bovine population General people, in spite of their good intentions, cannot always arrange for better dairy management either due to adverse economic conditions or lack of adequate interest regarding cattle, i e , what may well be termed as "cattle sense"

22
Apart from such factors, indiscreet breeding that has lowered the general level of the

(¹) But this is not all It is well known that each year in search of good stock bulls and better cows, the State has to avail the markets of Punjab and Bihar (mainly) Good buffaloes are also being purchased from up countries. Thus, the poverty of bovine stock of the State compels her to import such animals each year

population, is still being practised and the poverty of the bovine population goes on lingering But for some time past, steps have been taken to stop the cycle and to bring upon improvement Inferior bulls are being made useless for breeding purposes by castrating them Good stock bulls are being kept in different centres for breeding purposes But to step up the progress, artificial insemination centres have been opened in different parts of the State Such networks are being spread over more widely for upgrading the local types

23

Some land need be found out systematically for growing fodder crops This is a big problem and is linked up with the problem of agriculture of the State Unless, yield rates of food crops can be increased and more exploitation of land is practised, this essential feature cannot be achieved

24

Table F shows the different groups of bulls and buffaloes over 3 years—

Table F.

Different groups of mature Bulls, Bullocks and Buffaloes

Districts	Cattle				Buffaloes			
	Breeding bulls	Working bulls and bullocks	Other bulls	Total	Breeding bulls	Working bulls and bullocks	Other bulls.	Total
(1) Calcutta	45	949	72	1,066	35	408	66	509
(2) 24-Parganas	7,254	580,971	44,346	632,571	227	16,443	4,805	21,475
(3) Nadia	1,692	179,298	4,789	185 779	125	27,402	636	28,163
(4) Murshidabad	1,188	272,437	7,971	281,596	104	43,187	1,630	44,921
(5) Burdwan	5,157	295,841	21,582	322,580	859	53,586	3,095	57,540
(6) Birbhum	1,903	235,221	10,545	247,669	37	19,025	1,002	20,064
(7) Bankura	5,169	244,739	22,803	272,711	617	47,475	5,017	53,109
(8) Midnapore	7,018	732,763	56,366	796,147	395	17,555	3,462	21,412
(9) Hooghly	846	223,898	14,351	239,095	58	7,899	188	8,145
(10) Howrah	617	73,639	7,891	82,147	17	80	15	112
(11) Jalpaiguri	8,702	187,331	22,206	218,239	923	31,953	5,361	38,237
(12) Darjeeling	2,045	32,092	5,533	41,570	292	6,712	664	7,668
(13) Malda	740	201,672	3,275	205,087	40	29,334	1,406	30,780
(14) West Dinajpur	4,726	214,978	10,263	229,967	110	37,024	1,170	38,304
(15) Cooch Behar	6,120	208,855	11,467	226,451	487	12,009	553	13,049
Total West Bengal	54,131	3,084,084	244,460	3,083,275	4,326	350,092	20,070	384,088

25

Bulls are still being used for various purposes They are used for agricultural operations, cart driving, oilseed grinding, etc , works that need power Of course, with availability of cheap electricity this source of power will gradually be less needed But they have played such a vital role as source of available power that if the concept of power had been defined here, people would have perhaps liked to use "bull power" instead of horse power" as unit of power However, in spite of their great use, due to their weak physique they act also weakly This goes for maintenance of large number of bulls and bullocks According to Livestock Census, 1951, on an average for each 5 7 acres of net cropped area, a pair of bullock was maintained But it is considered that fairly for 9 acres of net cropped area, a pair should be maintained

26

The Royal Commission on Agriculture in India (1928) reported, "In most parts of world cattle are valued for food and for milk, in India their primary purpose is draught for the plough or the cart "

27

Sheep —Compared to the size of sheep population of the State of 1945, in 1951 the population was 429 2 per cent in Calcutta, 430 6 per cent in 24-Parganas, 107 5 per cent in Nadia, 128 6 per cent in Murshidabad, 134 3 per cent in Burdwan 120 2 per cent in Birbhum, 129 8 per cent in Bankura, 148 3 per cent in Midnapore, 141 5 per cent in Hooghly, 93 7 per cent in Howrah, 674 2 per cent in Jalpaiguri, 139 0 per cent in Darjeeling, 106 0 per cent in Malda 118 2 per cent in West Dinajpur and 139 2 per cent in West Bengal In 1945 there were some 3 45 lakh sheep in the State excluding Cooch Behar

28

Table 10 4 shows the districtwise distribution of sheep population of the State In the State there were some 4 80 lakh sheep It is seen that Burdwan had 87 1 thousand Birbhum 84 5 thousand, Bankura 69 4 thousand, Midnapore 56 6 thousand, Murshidabad 51 9 thousand and 24-Parganas 51 6 thousand sheep, i e , these six districts had nearly 84 per cent of the total sheep population of the State

29

Goat —Compared to the size of goat population of the State of 1945, in 1951 the population was 91 2 per cent in Calcutta, 197 7 per cent in 24-Parganas, 89 1 per cent in Nadia, 118 8 per cent in Murshidabad, 155 3 per cent in Burdwan, 112 5 per cent in Birbhum, 124 9 per cent in Bankura, 151 7 per cent in Midnapore, 144 3 per cent in Hooghly, 150 6 per cent in Howrah, 184 8 per cent in Jalpaiguri, 153 2 per cent in Darjeeling, 168 7 per cent in Malda, 137 9 per cent in West Dinajpur and 142 8 per cent in West Bengal There were some 28 24 lakh goats in the State (including Cooch Behar in 1945)

30

In this State goat is usually preferred to sheep. Generally speaking, goat meat is used more widely than sheep meat and as such, goats are more in number in the State Goat milk also has some demand and fetches higher market price than cow's milk

31

Table 10 3 shows the districtwise distribution of goat population of the State There were 40 31 lakh goats in the State Out of that, 24-Parganas had 6 49 lakh, Midnapore 5 36 lakh Burdwan 4 12 lakh, Bankura 3 65 lakh and Murshidabad 3 57 lakh goats, i e , these five districts had some 58 per cent of the total goat population of the State

32

The Black Bengal, i e, the indigenous breed of goat is considered very good in view of high rate of multiplication, tender meat and fine quality of skin But yield rate of milk produced by them is very low They are also of short stature and, as such, quantity of meat and skin obtained from them are also low Compared to this, some of the other different breeds that thrive on other parts of India show much better performance as will be seen from the following table —

Breed	Average live weight (in lb)	Average yield of milk per animal per day (in lb).
Barbari	40	1 5
Beetal	55	3 0
Berari	50	1 5
Jamunapuri	80	4 ·0
West Bengal	28 (he goat) 50 (castrated he goat)	0 56

33

Pigs —Table 10 3 shows that there were some 2 98 lakh pigs in the State Over the population of 1945 (0 80 lakh, excludin als of Cooch Behar) in 1951 a steep rise in the population has been noted It is interesting to note that compared to the population of 1945, in 1951 the population was 620 6 per cent in Calcutta, 263 7 per cent in 24-Parganas, 237 2 per cent in Nadia, 452 5 per cent in Murshidabad, 593 7 per cent in Burdwan, 269 2 per cent in Birbhum, 343 4 per cent in Bankura, 793 6 per cent in Midnapore, 594 6 per cent in Hooghly, 188 3 per cent in Howrah, 593 8 per cent in Jalpaiguri, 198 4 per cent in Darjeeling, 319 0 per cent in Malda, 240 7 per cent in West Dinajpur and 371 7 per cent in West Bengal

34

The rise in population, if it goes in this way, will result in huge surplus of stock It may be mentioned here that pig products are not consumed by the majority of the population i e, the internal demands of pigs are very limited

35

Horses —There were only some 25 thousand horses and ponies in West Bengal in 1951 Compared to 1945 (some 32 thousand), the population in 1951 came out to be only 79 3 per cent for the State as a whole But the horse population, in 6 years increased by 10 8 per cent in 24-Parganas, 57 0 per cent in Murshidabad, 23 0 per cent in Burdwan, 120 0 per cent in Birbhum, 14 8 per cent in Jalpaiguri, and 1 6 per cent in West Dinajpur

36

Horses are not used for agricultural operations They are mostly used for cart driving and riding purposes Horse meat is hardly used as human food

37

The other animals like donkey, mule, elephant, camel, etc, taken together were only 1,095 in number

38

Poultry —According to reports of Census, 1951 (Table 10 4), there were some 92 78 lakh poultry birds consisting of fowls (62 35 lakh) and ducks (30 43 lakh) In 1945 there were 48 82 lakh fowls and 19 19 lakh ducks in the State—

(*a*) *Fowls* —24-Parganas had 10 54 lakh fowls, Murshidabad 7 37 lakh, Midnapore 7 32 lakh, Burdwan 5 78 lakh, Jalpaiguri 4 64 lakh and Birbhum 4 15 lakh, i e, these six districts had nearly 63 per cent of the fowls of the State

Fowls are used both for their eggs and as table birds. The local birds are usually small in size. They are poor usually egg-layers, eggs are small in size and annual production per hen is only some 36 (Table A). For some time, attempts have been made to increase the population of Rhode Island Red and White Leghorn breeds These breeds have shown very good performance in State poultry farms

Table C.

Performance of Rhode Island Red and White Leghorn breed of fowl kept at Haringhata Farm, Nadia (Average number of eggs laid per year per hen)

Breed	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56
R I R	110	128	145	143	137	159	186
W L	129	131	163	165	161	178	162
Local	.		..	117	90	158	122

The above table shows that the existing picture can change greatly in course of time if these breeds are given due importance by the general public At present, necessary steps in the line has been taken up by the Government and the target fixed up is to sell at least 1 75 lakh breeding birds and an equal number of hatching eggs during coming five years This would help in the spread of the Rhode Island Red and White Leghorn breeds and at the same time it would help in upgrading the local types

(b) *Ducks* —24-Parganas had 8 92 lakh ducks, Burdwan 3 81 lakh, Birbhum 2 71 lakh, Bankura 2 58 lakh, Midnapore 2 55 lakh and Hooghly 2 50 lakh, i e, these six districts had some 76 per cent of the total duck population of the State Ducks are mostly kept for their eggs The indigenous breed constitutes of low egg-layers and the eggs are small in size (Table A)

Khaki Campbell has been found to give good performance and, as such, attempts are being made to spread this breed widely

39

Table 10 5 shows the approximate average estimates of production of different kinds of livestock products in different States of India Roughly speaking, West Bengal produces only 166 84 lakh md of milk per year Compared to this, production of milk in States like Uttar Pradesh (1,226 36 lakh md), Madras (588 91 lakh md), Punjab (610 92 lakh Md), Rajasthan (521 73 lakh md), Bihar (469 58 lakh md), Bombay (338 56 lakh md), etc, is much higher It is estimated that 65 1 per cent of milk produced is utilised as fluid milk in West Bengal Excluding Delhi, where 80 5 per cent of milk produced is consumed as fluid milk, all other States use less than 60 per cent of produced milk as fluid milk On an average, in India, only 37 5 per cent of milk produced is used as fluid milk In butter production also, West Bengal is staying much behind the other States.

40

Coming to the issue of meat production, it is seen that the position of West Bengal is comparatively better West Bengal produces some 35 16 thousand tons of meat per year Out of this, 11 7 thousand tons come from goats, 14 8 thousand tons from beef and the remaining quantity from buffalo, sheep, etc Goat meat, though popular in the State, has its rate of production (in the State) much behind those in other States like Bombay (24 5 thousand tons), U P (23 0 thousand tons) Only some 2,000 tons of mutton are produced in this State (Bombay 17 9 thousand tons, U P 10 0 thousand tons and Mysore 9 3 thousand tons), though other States produce much higher quantity Out of the 461 2 thousand tons of meat produced in India, 155 6 thousand tons comes from goat, 112 2 thousand tons from mutton, 95 8 thousand tons from beef, 74 0 thousand tons from buffalo and only 23 6 thousand tons come from pork.

41.
India produces 158 6 lakh cattle hides and 52 0 lakh buffalo hides (i e , 7 4 per cent), out of which West Bengal produces 14 6 lakh cattle hides and 1 0 lakh buffalo hides 267 98 lakh skins are produced annually in India, out of which 212 94 lakh come from goat and 55 04 lakh come from sheep West Bengal contributes only 14 14 lakh goat skins and 2 26 lakh sheep skins (4 3 per cent) India produces 59,862 thousand lb of wool, out of which only 892 thousand lb (i e , 1 49 per cent) is contributed by West Bengal It has been roughly estimated that 14,072 lakh eggs are produced annually in India, out of which 1,944 lakh eggs are produced in West Bengal (13 8 per cent)(2)

42
In the agrarian set-up of the State, as has been stated, livestock plays a dynamic role It provides with protective food and extra income to the population of rural areas, where they are mostly reared To a cultivator, it provides with power for agricultural operations, cart driving, etc Their refuses are used for manuring lands (It may be mentioned here that dungs are used as fuel and for plastering mud huts also) Actually speaking, to a villager his family condition is not considered to be satisfactory if he has not a few acres of land, a pair of bullocks and one or two cows of his own This is a very humble picture of possession compared to those of other advanced countries In Denmark, there are some 9 cows per holding, 12 in U S A and 25 in New Zealand and U K Dairy farming is not very common in this State though milk marketing business has been on the growing

43
As has been stated earlier, in rural areas most families usually try to maintain their own cows (or buffaloes) As such, the marketable surplus milk mostly constitutes of the local supply But, there is scope for betterment in the position However, the milk supply in urban areas has drawn more attention But that also has not led into creation and expansion of dairy farming Rather, for urban areas, usually, collected milk produced in the neighbouring rural areas and milk produced within the urban areas are brought for meeting the demand The milk produced within urban areas, as such, comes mostly from the cattle kept in shades, that are ill-equipped and ill-kept The food materials are being purchased and stall feeding is the method arranged for the animals

44
On an average, the size of a dairy farm comes to be some 100 acres in Great Britain, 150 acres in U S A and New Zealand and so on Again, as the background, it has to be remembered that average size of holding of cultivators is only 4 81 acres in West Bengal, whereas, it is as high as some 148 acres in U S A , 62 acres in U K , 40 acres in Denmark, 26 acres in Holland, 20 25 acres in France, 14 50 acres in Belgium and so on

45
In spite of worth, importance, magnitude and potential value of livestock population, it is seen that overall position of livestock population is not healthy Mostly, the general population consists of poor and inferior indigenous types Indiscreet breeding, poor feed, lack of proper care and management, etc , have been pointed out as the causes behind such poverty The agro-economic vicious circle that has been referred to in the earlier chapters, is playing a vital role in this sector also As the matter stands at present, it may be hoped that with agricultural development the wealth of livestock population will come back. Dr Wright in his report(3) commented, "There is no doubt that the majority of Indian dairy cattle are seriously underfed It is equally apparent from the slow rate of growth, the late maturity and the long dry periods of Indian cattle which are kept under village conditions Moreover, it is significant that a careful analysis of the yields of purchased cows show that such animals give an average increase of 60 per cent in their milk yields solely as a result of better feeding and management (4) It may indeed be stated that inadequate nutrition is at present the most important single factor in accounting for the low-yields of 'country' cows" The Royal Commission on Agriculture viewed, "We are satisfied that no substantial improvement in the way of breeding is possible until the cattle can be better fed" Dr Wright pointed out further, "Coarse fodders are relatively valueless for milk production Cultivated grasses are reasonably satisfactory, but the fodders of outstanding value are leguminous crops "

46
Thus, the problem, for which it is obviously necessary to release some land for growing fodder crops, need proper tackling However, this can perhaps be done by adopting proper and suitable crop rotation programmes But apart from this as Dr Wright suggested, "Efforts should be made to increase the available supply of protein-rich concentrates such as linseed cotton seed and earthnut cakes" The habit of and faith in adopting modern procedures and amenities, when well accepted in one sector (say, agriculture), would expand automatically in other sectors too The age-old habits, practices and idiosyncrasies stand on the way of quick betterment of livestock population With gradual improvement of transportation facilities, the matter will have a different and wider aspect of development

47
There is another feature that rises from the fact that the weak, old and inefficient stock, not few in number, actually does not serve any purpose but consumes food If this food could have been given to the useful animals, the population could have shown much better performances But, people generally do not like the idea of removing the useless stock by slaughtering them However, improvements being a long-term process, are permeating in gradually and, as such, the position, though not very healthy at present, is promised with progress

(2) West Bengal has to depend greatly on the import of goat, sheep, ghee, butter, eggs etc , from outside the State It is very difficult to get at the right picture of the bulk of import but figures that are available (though not complete) show roughly the extent of dependence of the State on outside

According to tentative estimates, during 1953 54, some 4 15 lakh goats and sheep (mostly goats), 1 14 lakh mds of ghee and 29 thousand mds of butter come to Calcutta from other States Roughly, 8 37 lakh eggs arrived in Calcutta alone from outside (from East Pakistan and South India)

Apart from these, this State has to consume dried milk, condensed milk, butter, milk food, etc , imported from foreign countries

(3) Report on the Development of the Cattle and Dairy Industries of India—Dr N C Wright

(4) The herd of local cows kept at the Haringhata Farm has already given, on an average, 4 75 lbs of milk per animal.

TABLES

TABLE No. 1·1

Area, Total Population, Agricultural Population and Density of Population in the different States of India(†)

	Geographical area (in square miles)	Population in '000 persons: Rural	Urban	Total	Agricultural population in '000 persons: Cultivators of land wholly or mainly owned and their dependents	Cultivators of land wholly or mainly unowned and their dependents	Cultivating labourers and their dependents	Non cultivating owners of land Agricultural rent receivers and their dependents	Total Agricultural population.	Agricultural population as percentage of total population	Density of population per square mile
Part A States.											
1 Assam .	85,012	8,629	415	9,044	5,236	1,158	157	82	6,633	73 3	106
2 Bihar ..	70,330	37,521	2,705	40,226	22,242	3,327	8,795	247	34,611	86 0	572
3 Bombay	111,434	24,786	11,170	35,956	14,649	3,485	3,253	712	22,099	61 5	323
4 Madhya Pradesh . ..	130,272	18,370	2,877	21,247	10,519	950	4,336	344	16,149	60 0	163
5 Madras	127,790	45,832	11,184	57,016	19,926	5,464	10,393	1,238	37,021	64 9	446
6 Orissa	60,136	14,052	594	14,646	8,719	870	1,804	220	11,613	79 3	244
7 Punjab	37,378	10,240	2,401	12,641	4,822	2,016	963	268	8,069	63 8	338
8 Uttar Pradesh	113,409	54,590	8,626	63,216	39,361	3,256	3,612	668	46,897	74 2	557
9 West Bengal ..	30,775(1)	18,657	6,153	24 810	8,024	2,980	3,042	149	14,195	57 2	806
Total .	766,536	232,677	46,125	278 802	133,498	23,506	36,355	3,928	197,287	70·8	364
Part B States.											
1 Hyderabad ..	82,168	15,179	3,476	18,655	7,688	1,378	3,200	449	12,715	68 2	227
2 Madhya Bharat	46,478	6,513	1,441	7,954	4,011	812	849	72	5,744	72 2	171
3 Mysore	29,489	6,896	2,179	9,075	5,033	432	616	262	6,343	69 9	308
4 P E P S U	10,078	2,828	666	3,494	1,689	405	359	82	2,535	72 6	348
5 Rajasthan . ..	130,207	12,642	2,649	15,291	6,622	3,496	475	244	10,837	70 9	117
6 Saurastra	21,451	2,744	1 393	4,137	1,356	345	156	73	1,930	46 7	194
7 Travancore Cochin . ..	9,144	7,792	1,488	9,280	2,444	659	1,872	115	5,090	54 8	1,015
Total ..	329,015	54,594	13,292	67,886	28,843	7,527	7,527	1,297	45,194	66 7	206

Part C States											
1 Ajmir	2,417	396	297	693	260	22	19	14	315	45 5	287
2 Bhopal ..	6,878	701	136	837	311	60	167	10	548	65 6	122
3 Coorg	1,586	213	16	229	78	23	25	7	133	58 1	144
4 Delhi	578	307	1,437	1,744	121	16	29	6	172	9 9	3,017
5 Kutch .	16,724	454	114	568	158	54	17	9	238	41 9	33
6 Manipur ..	8,628	575	3	578	411	58	1	12	482	83 4	670
7 Tripura	4,032	596	43	639	382	56	31	12	481	75 3	158
8 Vindhya Pradesh	23,603	3,269	306	3,575	2,238	227	630	19	3,114	87 1	151
9 Bilaspur .	453	122	4	126	97	14	2	1	114	90 5	278
10 Himachal Pradesh .	10,456	942	41	983	830	65	9	10	914	93 0	94
Total	75,355	7,575	2,397	9,972	4,886	595	930	100	6,511	65 3	132
Total of Part A, B and C States	1,170,906	294,846	61,814	356,660	167,227	31,628	44,812	5,325	248,992	69 8	305
Part D States										..	
1 Andaman and Nicobar Islands .	3,215	23	8	31					126	91 3	50
2 Sikkim	2,744			138	116	10					
Total excluding Jammu and Kashmir	1,176 865			356,829							.
Jammu and Kashmir ..	92,780			4,410							
Grand Total ..	1,269,645			361,239							

(¹) Survey General figures as incorporated in the Census Report, 1951 According to Director of Land Records the geographical area of West Bengal, (1951 Census), is 31,044 square miles and on the basis of which density of population per square mile comes to be 799.

(†) *Source* Census of India, Paper I, 1952.

TABLE No. 1·2

Administrative Divisions and Population of West Bengal by Thanas (†)

Districts.	Subdivisions	Police Stations	Area in square miles	Population	No. of inhabited villages	No of towns.
(1) 24-Parganas	(1) Alipur Sadar	(1) Bishnupur	82 4	143,583	155	..
		(2) Budge-Budge	55 0	147,123	93	1
		(3) Behala	20 1	113,379	14	1
		(4) Metiabruz	3 7	129,031	6	1
		(5) Tollygunge	25 6	194,583	28	1
		(6) Sonarpur	65 9	88,413	103	1
		(7) Baruipur	82 8	105,321	131	1
		(8) Joynagar	279 7	196,047	161	1
		(9) Canning	340 1	188,216	184	1
		(10) Bhangar	124 9	115,057	143	
		(11) Maheshtola	20 5	93,195	50	1
		Total	1,106 7	1,513,948	1,068	9
	(2) Basirhat	(1) Basirhat	100 5	137,951	129	1
		(2) Baduria	81 0	89,592	94	1
		(3) Swarupnagar	83 4	62,000	65	
		(4) Haroa	121 0	102,374	158	
		(5) Hasnabad	156 1	145,436	114	1
		(6) Sandeshkhali	275 9	176,266	101	
		Total	817 9	713,619	661	3
	(3) Baraset	(1) Baraset	104 1	119,442	188	1
		(2) Habra	108 7	111,252	165	1
		(3) Deganga	78 0	71,792	107	
		(4) Amdanga	53 6	40,838	79	
		(5) Rajarhat	39 6	50,656	55	
		Total	384 0	393,980	594	2
	(4) Bongaon	(1) Bongaon	225 8	152 184	252	1
		(2) Gaighata	94 0	56,558	105	
		Total	319 8	208,742	357	1
	(5) Barrackpore	(1) Barrackpore	3 2	10,189		1
		(2) Dum Dum	16 2	95,590	7	3
		(3) Titagarh	11 2	121,798	11	2
		(4) Jagatdal	22 6	152,624	22	1
		(5) Naihati	15 6	75 596	18	1
		(6) Bijpur	15 5	105,185	21	2
		(7) Khardah	21 1	81,464	22	2
		(8) Noapara	6 0	75,077		3
		(9) Baranagar	7 7	154,377		2
		Total	119 1	877,000	101	17
	(6) Diamond Harbour	(1) Diamond Harbour	75 7	128,741	165	1
		(2) Falta	52 4	89,112	129	
		(3) Mathurapur	423 3	202,100	208	
		(4) Kakdwip	245 8	97,819	72	
		(5) Sagar	224 3	51,463	45	
		(6) Kulpi	123 4	140,187	244	
		(7) Magrahat	117 5	191,698	202	
		Total	1,262 4	901,120	1,065	1
		24-Parganas Forest Division	1,630 0	2,496(1)		
		District Total	5,639 9	4,609,309	3,846	33
(2) Nadia	(1) Sadar	(1) Krishnagar	138 5	157,981	109	1
		(2) Nabadwip	40 2	91,380	27	1
		(3) Chapra	130 8	77,675	91	..
		(4) Krishnaganj	58 4	38,696	52	..
		(5) Nakasipara	139 9	81,747	98	
		(6) Kaliaganj	124 0	77,305	106	
		(7) Tehatta	163 4	90,402	79	.
		(8) Karimpur	173 6	87,685	125	.
		Total	968 8	702,871	687	2
	(2) Ranaghat	(1) Ranaghat	171 1	151,852	171	2
		(2) Chakdah	125 8	117,495	154	2
		(3) Haringhata	65 0	37,927	84	
		(4) Hanskhali	103 3	55,115	79	
		(5) Santipur	75 0	79,664	63	1
		Total	540 2	442,053	551	5
		District Total	1,509 0	1,144,924	1,238	7

(†) *Source* Census Report, 1951 (Excluding Calcutta, area of Calcutta—32 3 sq miles, population—2,548,677)

(1) The population figures of 24-Parganas Forest Division have been included in the respective Police Stations/Subdivisions in the jurisdiction of which they fall, which are Jaynagar (Sadar), Canning (Sadar), Hasnabad (Basirhat), Sandeshkhali (Basirhat), Mathurapur (Diamond Harbour) and Sagar (Diamond Harbour) Police Stations

TABLE No. 1·2—*contd*

Districts	Subdivisions	Police Stations	Area in square miles.	Population	No. of inhabitated villages	No of towns
3 Murshidabad ..	(1) Sadar	(1) Berhampore	125·7	137,823	121	1
		(2) Beldanga	143 3	151,339	114	.
		(3) Nawada .	88 9	58,652	28	..
		(4) Hariharpara	97·5	58,570	55	..
		(5) Domkal	117 5	82,804	71	
		(6) Jalangi .	85 9	55,040	37	.
		Total	658·8	544,228	426	1
	(2) Lalbagh ..	(1) Murshidabad	60 2	44,571	70	1
		(2) Jiaganj	19 7	29,130	44	1
		(3) Nabagram	118 4	60,443	109	.
		(4) Lalgola	83 5	78,247	83	
		(5) Bhagwangola	116 7	89,808	104	
		(6) Raninagar	123 4	91,672	79	
		Total ..	521 9	393,871	489	2
	(3) Jangipore	(1) Farakka	57 0	58,791	59	.
		(2) Samserganj	42 5	74,324	39	1
		(3) Suti	102 3	91,680	85	
		(4) Raghunathganj	102 0	132,633	128	1
		(5) Sagardighi	133 3	74,545	166	
		Total ..	437 1	431,979	477	2
	(4) Kandi	(1) Kandi	92 1	71,436	85	1
		(2) Khargram	122 4	81,902	142	
		(3) Burwan	107 7	81,917	154	
		(4) Bharatpur	132 1	110,426	128	
		Total ..	454 3	345,681	509	1
		District Total ..	2,072 1	1,715,759	1,901	6
4 Burdwan ..	(1) Sadar	(1) Burdwan	157 1	153,198	139	1
		(2) Khandaghosh	100 5	60,095	104	
		(3) Raina	187 1	111,169	198	
		(4) Jamalpur	101 5	80,106	122	
		(5) Memari	164 9	115,223	217	1
		(6) Galsi	184 0	107,001	150	
		(7) Bhatar	160 0	84,633	105	
		(8) Ausgram	231 8	90,632	163	
		Total	1,286 9	802,057	1,198	2
	(2) Asansol ..	(1) Salanpur	52 1	47,354	74	1
		(2) Kulti	32 5	122,212	46	4
		(3) Hirapur	24 6	59,934	26	1
		(4) Asansol	30 7	115,485	39	1
		(5) Barabani	60 4	50,530	52	
		(6) Jamuria	90 6	111,550	66	
		(7) Raniganj	32 8	71,495	28	1
		(8) Ondal	71 4	86,008	53	1
		(9) Faridpur	120 2	54,506	87	
		(10) Kanksa	108 8	50,191	84	
		Total .	624 1	769,265	555	9
	(3) Kalna ..	(1) Kalna	134 2	122,534	211	1
		(2) Purbasthali	133 0	104,628	183	
		(3) Monteswar	117 9	78,589	134	
		Total .	385 1	305,751	528	1
	(4) Katwa	(1) Katwa	131 3	128,193	123	2
		(2) Mongalkot	140 9	88,871	128	
		(3) Ketugram	137 1	97,530	117	.
		Total .	409 3	314,594	368	2
		District Total ..	2,705 4	2,191,667	2,649	14

TABLE No. 1·2—*contd.*

Districts	Subdivisions	Police Stations	Area in square miles	Population	No of inhabitated villages	No of towns
5 Birbhum	(1) Sadar	(1) Suri	113·1	80,823	180	1
		(2) Sainthia	120 1	70,773	210	1
		(3) Rajnagar	85 2	33,526	86	
		(4) Mohammadbazar	121 0	53,392	135	
		(5) Dubrajpur	138 8	76,226	181	1
		(6) Khoyrasol	105 6	61,553	125	
		(7) Illambazar	100 2	48,289	123	
		(8) Bolpur	128 8	77,440	155	1
		(9) Labpur	104 7	66,778	160	
		(10) Nanoor	119 4	69,359	131	
		Total	1,136 9	638,159	1,486	4
	(2) Rampurhat	(1) Rampurhat	182 4	131,309	202	1
		(2) Mayureswar	147 0	91,835	234	
		(3) Nalhati	138 8	102,116	142	
		(4) Murarai	137 8	103,470	143	
		Total	606 0	428,730	721	1
		District Total	1,742 9	1,066,889	2,207	5
6 Bankura	(1) Sadar	(1) Bankura	157 7	141,850	267	1
		(2) Onda	193 9	84,829	260	
		(3) Chhatna	172 9	89,182	275	
		(4) Gangajalghati	143 3	70,817	149	
		(5) Barjora	151 9	69,831	177	
		(6) Mejhia	62 9	34 068	71	
		(7) Saltora	121 5	59,304	143	
		(8) Khatra	166 5	84 020	268	1
		(9) Indpur	115 9	63,069	195	
		(10) Ranibandh	165 4	57,850	183	
		(11) Raipur	227 1	110,028	344	
		(12) Simlapal	119 4	49,782	189	
		(13) Taldangra	135 0	50,733	140	
		Total	1,933 4	965,303	2,661	2
	(2) Vishnupur	(1) Vishnupur	146 5	73 741	146	1
		(2) Jaypur	100 0	52,359	135	
		(3) Kotulpur	96 7	54,374	159	
		(4) Sonamukhi	146 7	61,307	154	1
		(5) Patrasayar	124 2	60,940	142	1
		(6) Indas	98 5	51,175	128	
		Total	713 5	353,896	864	3
		District Total	2 646 9	1 319 259	3,525	5
7 Midnapore	(1) Sadar	(1) Midnapore	130 1	94,362	216	1
		(2) Salboni	213 3	68 266	379	
		(3) Keshpur	185 9	85 856	518	
		(4) Garbeta	408 4	150 115	733	1
		(5) Debra	132 2	69 090	454	
		(6) Sabang	120 4	74,177	221	
		(7) Pingla	86 3	50,363	170	
		(8) Kharagpur local	214 4	95 722	534	
		(9) Kharagpur town	12 9	129 636		1
		(10) Narayangarh	194 6	75,499	437	
		(11) Danton	170 7	90 346	301	
		(12) Mohanpur	54 3	30 550	98	
		(13) Keshiari	114 5	43,676	200	
		Total	2,038 0	1,057,658	4,261	3
	(2) Contai	(1) Contai	196 1	190,850	553	1
		(2) Khejuree	164 8	92,439	131	
		(3) Bhagwanpur	140 0	140,499	317	
		(4) Pataspur	138 2	100,735	273	
		(5) Ramnagar	116 9	103,602	258	
		(6) Egra	155 6	111,716	241	
		Total	911 6	739,841	1,773	1
	(3) Tamluk	(1) Tamluk	94 0	142,038	185	1
		(2) Panskura	154 7	176,405	354	
		(3) Moyna	57 3	69,639	83	
		(4) Mahisadal	124 9	141,390	171	
		(5) Nandigram	190 9	159,584	249	
		(6) Sutahata	127 3	99,382	198	
		Total	749 1	788,438	1,240	1
	(4) Ghatal	(1) Ghatal	89 8	84,670	140	2
		(2) Daspur	127 9	140,339	243	
		(3) Chandrakona	150 8	86,373	243	3
		Total	368 5	311,382	626	5
	(5) Jhargram	(1) Jhargram	208 3	80,381	482	1
		(2) Jamboni	126 1	49,528	275	
		(3) Binpur	365 0	136,933	805	
		(4) Gopiballavpur	184 9	89,916	483	
		(5) Sankrail	106 4	47,001	275	
		(6) Nayagram	195 2	57,944	257	
		Total	1,185 9	461,703	2,617	1
		District Total	5,253 1	3,359,022	10,517	11

TABLE No. 1·2—*contd.*

Districts.	Subdivisions	Police Stations.	Area in square miles	Population.	No. of inhabited villages.	No. of towns.
8 Hooghly	(1) Sadar	(1) Chinsurah	14 5	70,601	12	1
		(2) Dhaniakhali	106 2	94,785	214	..
		(3) Polba	110 3	83,594	192	..
		(4) Magra	25 0	52,108	47	1
		(5) Balagarh	79·5	67,613	128	..
		(6) Pandua	110 6	85,872	156	..
		Total	446 1	454,573	749	2
	(2) Serampore	(1) Serampore	22 4	141,071	17	3
		(2) Uttarpara	11 2	65,726	10	3
		(3) Chanditala	63 1	128,912	100	.
		(4) Jangipara	63·3	71,438	126	.
		Total	160 0	407,147	253	6
	(3) Chandernagore	(1) Chandernagore	3 7	49,000		1
		(2) Bhadreswar	15 4	80,753	16	2
		(3) Haripal	71 2	84,312	152	.
		(4) Tarakeswar	40 3	61,366	90	
		(5) Singur	56 9	95,753	102	.
		Total	193 5	372,093	360	3
	(4) Arambagh	(1) Arambagh	115 0	95,172	151	1
		(2) Pursura	38 8	58,508	50	
		(3) Goghat	145 3	86,639	203	
		(4) Khanakul	113 4	130,007	140	.
		Total	412 5	370,416	544	1
		District Total	1,212 1	1,604,229	1,906	12
9 Howrah	(1) Sadar	(1) Howrah City	10 0	433,630		1
		(2) Sibpur	0 4	332	1	
		(3) Bally	17 5	110,189	15	1
		(4) Domjur	37 6	98,168	54	.
		(5) Jagacha	6 9	33,838	11	.
		(6) Sankrail	24 8	99,384	40	.
		(7) Jagatballavpur	49 5	78,995	76	
		(8) Panchla	27 4	73,920	33	
		Total	174 1	928,456	230	2
	(2) Uluberia	(1) Amta	141 1	230,254	219	.
		(2) Bagnan	63 3	124,463	98	.
		(3) Uluberia	76 0	158,587	116	1
		(4) Shyampur	100 0	138,195	143	.
		(5) Bauria	5 6	31,418	9	1
		Total	386 0	682,917	585	2
		District Total	560 1	1,611,373	815	4
10 Jalpaiguri	(1) Sadar	(1) Jalpaiguri	185 6	115,459	24	1
		(2) Rajganj	245 8	51,723	29	.
		(3) Maynaguri	251 5	98,315	86	.
		(4) Nagrakata	106 7	42,389	40	.
		(5) Dhupguri	216 8	110,910	105	.
		(6) Mal	197 4	88,158	105	
		(7) Matiali	92 1	49,188	42	..
		Total	1,295 9	546,142	431	1
	(2) Alipurduar	(1) Madarihat	146 9	59,486	50	..
		(2) Falakata	122 6	55,700	68	..
		(3) Kalchini	344 4	85,609	43	..
		(4) Alipurduar	269 7	119,038	129	1
		(5) Kumargram	194 9	48,563	60	
		Total	1,078·5	368,396	345	1
		District Total	2,374·4	914,538	776	2

TABLE No. 1·2—*concld.*

Districts.	Subdivisions	Police Stations	Area in square miles	Population	No of inhabitated villages	No of towns
11 Darjeeling	(1) Sadar	(1) Darjeeling	40 4	63,171	23	1
		(2) Jore Bunglow	56 4	28,944	28	
		(3) Pulbazar	53 0	26,929	5	
		(4) Sukhiapokri	92 6	19,258	18	
		(5) Rangli Rangliot	118 8	31,329	25	
		Total	361 2	169,631	99	1
	(2) Kurseong ..	(1) Kurseong ..	126 6	49,577	47	1
		(2) Miri .	37 6	16 136	13	
		Total	164 2	65,713	60	1
	(3) Siliguri ..	(1) Siliguri ..	124 4	68,280	150	1
		(2) Kharibari	78 4	24,876	108	
		(3) Phansidewa .	63 6	23,319	82	
		Total	266 4	116,475	340	1
	(4) Kalimpong .	(1) Kalimpong ..	235 4	76 463	77	1
		(2) Garubathan ..	172 5	16,978	29	
		Total	407 9	93,441	106	1
		District Total .	1,199 7	445,260	605	4
12 Malda	(1) Sadar ..	(1) Englishbazar ..	98 4	93,872	102	1
		(2) Kaliachak	207 1	226,184	167	
		(3) Malda	87 4	37,420	112	1
		(4) Habibpur ..	153 3	72,193	227	
		(5) Ratua ..	153 7	115,834	131	
		(6) Manikchak ..	122 2	77 587	71	
		(7) Kharba ..	142 2	100,498	178	
		(8) Harishchandrapur	149 8	101,156	172	
		(9) Gajol ..	198 3	73 171	277	
		(10) Bamangola .	79 6	39,665	140	
		Total	1,392 0	937,580	1,577	2
		District Total	1,392 0	937,580	1,577	2
13 West Dinajpur	(1) Balurghat	(1) Hili — .	34 0	38,787	76	1
		(2) Balurghat .. .	143 7	101,471	294	1
		(3) Kumarganj —	110 8	55,905	211	
		(4) Tapan —	170 3	70,644	208	
		(5) Gangarampur	126 8	61,307	199	
		Total ..	585 6	328,114	1,048	2
	(2) Raiganj	(1) Bansihari .. .	134 2	51,276	269	
		(2) Kushmandi ..	119 9	56,314	223	
		(3) Kaliaganj .. .	120 3	67,300	195	
		(4) Hemtabad —	74 0	34,680	113	
		(5) Raiganj	186 4	101,870	220	1
		(6) Itahar .. .	165 1	80,953	235	
		Total	799 9	392,459	1,255	1
		District Total .	1,385 5	720,573	2,303	3
14 Cooch Behar	(1) Tufanganj .	(1) Tufanganj —	224 0	97,713	122	1
		Total ..	224 0	97,713	122	1
	(2) Dinhata	(1) Dinhata — ..	210 9	137,000	247	1
		(2) Sitai — ..	61 0	24,054	49	
		Total ..	271 9	161,054	296	1
	(3) Sadar .	(1) Cooch Behar — ..	284 8	171,865	247	1
		Total ...	284 8	171,865	247	1
	(4) Mathabhanga .	(1) Sitalkuchi — ..	101 0	45,755	69	
		(2) Mathabhanga — .	242 0	102,936	193	1
		Total ...	343 0	148,691	262	1
	(5) Mekliganj .	(1) Mekliganj — ..	112 7	45,255	159	1
		(2) Haldibari — ..	86 2	46,580	112	1
		Total ..	198 9	91,835	271	2
		District Total ..	1,822 6	671,158	1,198	6

TABLE No. 1·3

Population and Density of Population per square mile in the districts of West Bengal by decennium (*)

1 Population.

District.	1901	1911	1921	1931	1941	1951
Calcutta	921,380	1,013,143	1,046,300	1,163,771	2,108,891	2,548,677
24-Parganas	2,155,534	2,403,204	2,622,107	2,865,785	3,669,490	4,609,309
Nadia	773,202	775,986	711,706	721,907	840,303	1,144,924
Murshidabad	1,322,486	1,345,073	1,224,181	1,370,677	1,640,580	1,715,759
Burdwan	1,528,290	1,533,874	1,434,771	1,575,699	1,890,732	2,191,667
Birbhum	906,891	940,162	851,725	947,554	1,048,317	1,066,889
Bankura	1,116,411	1,638,670	1,019,941	1,111,721	1,289,640	1,319,259
Midnapore	2,789,114	2,821,201	2,666,660	2,799,093	3,190,647	3,359,022
Hooghly	1,049,041	1,090,097	1,080,142	1,114,255	1,377,729	1,554,320
Howrah	850,514	943,502	997,403	1,098,867	1,490,304	1,611,373
Jalpaiguri	546,854	661,282	694,056	739,160	845,702	914,538
Darjeeling	249,117	265,550	282,748	319,635	376,369	445,260
Malda	603,633	698,530	686,174	718,563	844,315	937,580
West Dinajpur	456,501	509,557	490,434	523,977	583,484	720,573
Cooch Behar	566,974	592,952	592,489	590,884	640,842	671,158
West Bengal	15,835,942	16,792,783	16,400,837	17,661,550	21,837,295	24,810,308

2 Density of population per sq mile

District	1901	1911	1921	1931	1941	1951
Calcutta	28,494	30,879	31,921	35,299	65,250	78,868
24 Parganas	382	439	468	512	651	817
Nadia	512	514	472	478	557	759
Murshidabad	638	649	591	661	792	828
Burdwan	565	567	530	582	699	810
Birbhum	520	539	489	544	601	612
Bankura	422	430	385	420	487	498
Midnapore	531	537	508	533	607	639
Hooghly	868	902	894	922	1,140	1,286
Howrah	1,519	1,685	1,781	1,962	2,661	2,877
Jalpaiguri	229	279	292	311	356	385
Darjeeling	208	221	236	266	314	371
Malda	434	502	493	518	607	674
West Dinajpur	329	368	354	378	421	520
Cooch Behar	429	448	448	447	485	507
West Bengal	510	541	528	569	703	799

TABLE No. 1·4

Rural and Urban Population of West Bengal, 1951 (†)

District	Persons			Urban population as percentage to total population during	
	Rural	Urban	Total	1951	1941
Calcutta		2,548,677	2,548,677	100 00	100·00
24-Parganas	3,243,340	1,365,969	4,609,309	29 64	23 76
Nadia	936,823	208,101	1,144,924	18 18	13 84
Murshidabad	1,580,832	134,927	1,715,759	7 86	7 34
Burdwan	1,867,726	323,941	2,191,667	14 78	11 80
Birbhum	997,896	68,993	1,066,889	6 47	5·76
Bankura	1,224,641	94,618	1,319,259	7 17	7 13
Midnapore	3,106,142	252,880	3,359,022	7 53	5 89
Hooghly	1,209,390	344,930	1,554,320	22 19	20 53
Howrah	1,089,053	522,320	1,611,373	32 41	28 83
Jalpaiguri	848,393	66,145	914,538	7 23	3 28
Darjeeling	350,779	94,481	445,260	21 22	15 45
Malda	902,419	35,161	937,580	3 75	3·22
West Dinajpur	678,633	41,940	720,573	5 82	1 19
Cooch Behar	620,978	50,180	671,158	7 48	4 18
West Bengal ..	18,657,045	6,153,263	24,810,308	24 80	21 25

TABLE No. 1·5

Classification of Population dependent on Agriculture in West Bengal, 1951 (†)

Districts	Total population	Cultivator of land wholly or mainly owned and their dependents	Cultivator of land wholly or mainly unowned and their dependents	Cultivating labourers and their dependents.	Non cultivating owners of land, agricultural rent receivers and their dependents	Total Agricultural population	Percentage of agricultural to total population.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Calcutta	2,548,677	4,697	309	285	17,405	22,696	0 89
24-Parganas (Excluding Calcutta)	4,609,309	1,299,278	473,598	662,357	26,552	2,461,785	53·41
Nadia	1,144,924	367,008	108,601	127,895	8,284	611,788	53·43
Murshidabad	1,715,759	711,459	182,340	283,349	9,325	1,186,473	69 15
Burdwan	2,191,667	688,510	323,365	343,401	17,059	1,372,335	62 62
Birbhum	1,066,889	451,565	132,220	278,109	6,388	868,282	81·38
Bankura	1,319,259	681,330	132,159	256,871	8,015	1,078,375	81 74
Midnapore	3,359 022	1,720,223	551,135	454,173	20,672	2,746,203	81·75
Hooghly	1,554,320	497,089	189,407	212,333	12,092	910,921	58 60
Howrah	1,611,373	238,525	90,936	167 335	9,098	505,894	31·40
Jalpaiguri	914 538	190,952	238,935	11,002	4,605	445,494	48 71
Darjeeling	445,260	94,079	40,230	7,929	598	142,836	32·08
Malda	937,580	395,421	154,167	115,687	2,582	667,857	71·23
West Dinajpur	720,573	345,595	190,713	74,298	3,140	613,746	85 17
Cooch Behar	671,158	338,026	172,287	46,857	3,306	560,476	83·51
West Bengal	24,810,308	8,023,757	2,980,402	3,041,881	149,121	14,195,161	57·21

(*) *Source* —Statistical Abstract, 1952.

(†) *Source.*—Census Report, 1951.

TABLE No. 1·6

Districtwise distribution of registered working factories in West Bengal, 1951 (†)

	Districts.	Rice mills.	Flour mills	Edible oils	Hydro-genated oils	Tea	Ciga-rette	Bidi	Cotton ginning and baling	Cotton mills	Silk mills.	Woollen mills	Knitting mills.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	24-Parganas	76	5	5	2	2	3		1	16	7	2	23
2.	Nadia	.		.					.				.
3	Murshidabad	1		2					.	1	1	.	
4	Burdwan	29		7						1			
5	Birbhum	44		7									
6	Bankura	23		7									1
7.	Midnapore	56		2									.
8	Hooghly	6		1	2					9	1		
9	Howrah	13	4	9	2		1		8	8		1	17
10	Jalpaiguri	8	.	5		150			.				
11.	Darjeeling	4				123							
12	Malda	3											.
13	West Dinajpur	17		.				..		.			.
14	Cooch Behar	.	.	1								..	
15.	Calcutta		4	15		2				.	.	.	18
	Total	280	13	61	6	277	4		9	35	9	3	59

	Districts	Jute presses	Others (gins and presses)	Dairy products	Canning and preservation of fruits and vegetables.	Saw mills.	Ply-wood	Tanneries and leather finishing	Foot-wear, wearing apparel, etc	Paper mills	Paper board, straw boards and other paper products.	Rubber and products	Cordage, rope and twine.
	(1)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1	24-Parganas	13	2	2	4	22	16	7	4	3	17	21	2
2	Nadia	1	..	1	..		..	..	..			..	.
3	Murshidabad	1	.	..									..
4	Burdwan	..	..	..	..	..				1	.		..
5	Birbhum		.	..			.						..
6	Bankura		.	..					.		.		—
7.	Midnapore	.	.	..		1			..			..	—
8	Hooghly	1		..	1	2				1		2	..
9	Howrah	3		.		3	1		5		1	3	5
10	Jalpaiguri	1				6	2					..	..
11	Darjeeling	1		1		3	3						
12	Malda			.								.	
13	West Dinajpur			.	.	.							
14.	Cooch Behar	1					1						
15.	Calcutta	1				2	1		5		7	2	
	Total	23	2	4	5	39	24	7	14	5	25	28	7

	Districts.	Lac (including shellac)	Vegetable and animal oils and fats (non-edible)	Electricity	Water supply	Sanitary services (pump and sewage)	Gas manufacture and distribution	Manufacture of ice.	Agricultural implements	Artificial manures	Basic chemicals (including fertilizers)	Fine and pharmaceutical chemicals.	Total
	(1)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1	24-Parganas	4	1	12	8	3	3	4	3	6	3	29	331
2	Nadia	..	.	1		..			1		.	.	4
3.	Murshidabad			1		.							7
4	Burdwan	.		6			1					.	45
5	Birbhum	.	.	.		.			.		.	.	51
6.	Bankura	1		1	..	.		.			.	.	33
7.	Midnapore			1		.		.	..		.		60
8	Hooghly				1	.		.	.	3	1	1	32
9	Howrah		2	7	..	.	3	..	2		..	1	99
10.	Jalpaiguri			1	.		.	..	.	.	.		173
11.	Darjeeling			8				..	1		..	1	140
12.	Malda					.		.	.		..	.	3
13	West Dinajpur	.		.	.			.	.			..	17
14.	Cooch Behar				.	..			.			.	3
15.	Calcutta	.		11	2			1	.	.		5	76
	Total	5	3	44	11	3	7	5	7	9	4	37	1,074

(†) *Source*. Chief Inspector of Factories, West Bengal.

TABLE No. 5·1(a)

Districtwise monthly rainfall for 1947(*)

Districts.	January	February	March	April	May	June	July	August	September	October	November	December	Annual.
1. 24-Parganas ..	(0 2)	(0 5)	(2 2)	(2 2)	(9 7)	(14 7)	(26 3)	(20 7)	(15 3)	(5 6)	Nil	(2 6)	(100)
	0 12	0 33	1 39	1 34	6 06	9 20	16 42	12 96	9 55	3 51	Nil	1 62	62 50
2. Nadia ..	(0 1)	(0 4)	(1 9)	(3 4)	(11 1)	(18 8)	(20 2)	(18 0)	(18 0)	(6 4)	Nil	(1 7)	(100)
	0 08	0 21	1 02	1 84	6 04	10 26	11 00	9 79	9 84	3 49	Nil	0 91	54 43
3. Murshidabad .	(Nil)	(0 1)	(2 1)	(1 5)	(7 1)	(12 6)	(21 0)	(22 3)	(24 2)	(8 8)	(Nil)	(0 3)	(100)
	Nil	0 04	1 18	0 82	3 85	6 85	11 46	12 16	13 16	4 80	Nil	0 18	54 45
4. Burdwan .	(—)	(0 4)	(2 8)	(0 5)	(5 3)	(11 9)	(34 4)	(25 0)	(12 0)	(5 9)	(0 1)	(1 7)	(100)
	0 01	0 18	1 41	0 26	2 70	6 08	17 41	12 63	6 07	3 00	0 04	0 85	50 59
5. Birbhum ..	0 01	0 05	1 10	1 19	1 15	4 44	(a)	12 78	7 75	3 18	0 40	0 10	(a)
6. Bankura .	(0 1)	(1 0)	(5 6)	(1 2)	(6 7)	(7 9)	(26 8)	(22 4)	(19 4)	(7 7)	(0 1)	(1 1)	(100)
	0 04	0 58	2 91	0 63	3 49	4 14	13 99	11 70	10 12	4 04	0 08	0 58	52 25
7. Midnapore	(0 4)	(2 5)	(3 3)	(0 7)	(8 8)	(12 6)	(22 0)	(18 9)	(18 4)	(5 9)	(1 8)	(4 1)	(100)
	0 18	1 25	1 60	0 35	4 33	6 18	11 15	9 30	9 07	2 89	0 90	2 02	49 22
8. Hooghly	0 02	0 46	1 28	0 94	4 55	10 04	(a)	11 26	10 63	4 48	Nil	0 47	(a)
9. Howrah	0 14	0 66	1 40	1 41	5 43	12 38	(a)	12 03	9 16	5 94	Nil	0 86	(a)
10. Jalpaiguri .	(0 1)	(Nil)	(4 2)	(2 0)	(7 7)	(14 1)	(25 2)	(16 5)	(23 4)	(5 9)	(Nil)	(Nil)	(100)
	0 09	Nil	4 96	3 30	9 14	16 79	29 97	19 58	27 82	7 02	Nil	Nil	118 71
11. Darjeeling	(0 1)	(0 2)	(3 2)	(2 8)	(6 9)	(17 4)	(29 4)	(20 9)	(15 8)	(3 2)	(—	(0 1)	(100)
	0 13	0 19	3 50	3 04	7 59	18 98	32 07	22 82	17 27	3 54	0 03	0 07	109 23
12 Malda	(Nil)		(1 0)	(0 1)	(5 6)	(6 1)	(28 1)	(26 4)	(26 1)	(6 0)	(0 5)	(0 1)	(100)
	Nil	0 01	0 63	0 05	3 48	3 78	17 43	16 34	161 4	3 60	0 32	0 04	61 91
13 West Dinajpur .	Nil	Nil	0 54	0 54	5 34	(a)	(a)	11 85	17 71	4 36	(a)	(a)	(a)
14 Cooch Behar .	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)

TABLE No. 5·1(b)

Districtwise monthly rainfall for 1948(*)

Districts.	January	February	March	April	May	June	July	August	September	October	November	December	Annual.
1. 24-Parganas	(0 9)	(3 7)	(3 6)	(4 5)	(8 5)	(14 4)	(19 3)	(21 0)	(11 4)	(6 8)	(5 3)	(Nil)	(100)
	0 65	2 83	2 74	3 42	6 46	10 91	14 63	16 43	8 69	5 14	4 05	Nil	75 95
2. Nadia	(0 4)	(2 3)	(4 3)	(7 1)	(10 3)	(12 4)	(15 8)	(18 8)	(5 1)	(17 8)	(5 7)	(Nil)	(100)
	0 19	1 15	2 17	3 62	5 24	6 31	8 05	9 55	2 57	9 04	2 89	Nil	50 78
3. Murshidbad	(0 5)	(1 4)	(0 7)	(3 2)	((11 5)	(15 5)	(18 7)	(16 1)	(15 9)	(10 9)	(5 6)	(Nil)	(100)
	0 26	0 80	0 40	1 83	6 44	8 73	10 51	9 02	8 95	6 10	3 15	Nil	56 10
4 Burdwan	(0 7)	(2 6)	(4 2)	(3 9)	(11 2)	(18 1)	(17 1)	(19 4)	(14 8)	(7 8)	(5 7)	(Nil)	(100)
	0 32	1 27	1 99	1 85	5 38	6 28	8 16	9 28	7 07	3 48	2 74	Nil	47 82
5 Birbhum	(0 1)	(1 2)	(0 9)	(3 8)	(7 1)	(14 9)	(20 5)	(23 3)	(14 3)	(6 3)	(7 6)	(Nil)	(100)
	0 06	0 56	0 44	1 85	3 46	7 21	9 90	11 27	6 94	3 03	3 68	Nil	48 40
Bankura	(0 3)	(1 7)	(3 2)	(2 9)	(8 9)	(16 3)	(18 4)	(19 3)	(16 5)	(6 3)	(6 2)	(Nil)	(100)
	0 16	0 87	1 62	1 47	4 57	8 34	9 43	9 88	8 44	3 21	3 18	Nil	51 17
7. Midnapore	(1 4)	(4 0)	(4 3)	(2 8)	(8 3)	(12 0)	(13 8)	(22 6)	(15 8)	(4 9)	(10 1)	(Nil)	(100)
	0 89	2 48	2 67	1 77	5 18	7 48	8 66	14 14	9 91	3 09	6 34	Nil	62 61
8. Hooghly	(0 6)	(3 9)	(5 5)	(2 1)	(12 1)	(12 5)	(14 1)	(23 7)	(11 4)	(5 5)	(8 6)	(Nil)	(100)
	0 41	2 62	3 65	1 42	8 10	8 33	9 43	15 79	7 58	3 64	5 74	Nil	66 71
9. Howrah	(0 7)	(3 3)	(5 7)	(1 9)	(9 5)	(15 3)	(14 9)	(28 0)	(8 6)	(5 3)	(6 8)	(Nil)	(100)
	0 59	2 62	4 47	1 52	7 50	12 08	11 76	22 10	6 78	4·20	5 41	Nil	79 08
10 Jalpaiguri	(Nil)	(0 4)	(0 3)	(7 7)	(14 9)	(21 3)	(27 3)	(11 9)	(9 9)	(5 0)	(1 2)	(0 1)	(100)
	Nil	0 83	0 63	14 50	27 92	39 89	51 32	22 29	18 62	9 39	2 32	0 15	187 86
11 Darjeeling .	(—)	(0 1)	(2 2)	(5 9)	(8 0)	(16 0)	(28 2)	(17 5)	(14 4)	(5·2)	(2 5)	(—)	(100)
	0 01	0 08	2 69	7 29	9 90	19 73	34 94	21 65	17 85	6 47	3 08	0 02	123 66
12 Malda ..	(0 1)	(2 0)	(Nil)	(0 2)	(2 2)	(16 4)	(32 7)	(7 2)	(21 6)	(13 3)	(4 3)	(Nil)	(100)
	0 05	1 06	Nil	0 10	1 24	9 04	18 03	3 94	11 90	7 33	2 35	Nil	55 06
13. West Dinajpur ..	(—)	(1 1)	(0 2)	(2 4)	(9 1)	(14 9)	(26 8)	(18 2)	(15 7)	(7 3)	(4 3)	(Nil)	(100)
	0 01	0 66	0 11	1 44	5 50	8 95	16 09	10 97	9 47	4 87	2 56	Nil	60 13
14 Cooch Behar .	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)

(*) *Note.*—The figures within braces show the monthly rainfall as percentage to
(a) Not available.

TABLE No. 5·1(c)

Districtwise monthly rainfall for 1949(*)

	Districts	January	February.	March	April	May	June	July	August.	September	October	November	December	Annual.
1	24-Parganas	(0 3)	(–)	(1 0)	(8 0)	(13 9)	(16 5)	(22 1)	(16 7)	(13 5)	(7 5)	(0 5)	(Nil)	(100)
		0 18	0 02	0 73	5 50	9 76	11 57	15 51	11 71	9 50	5 25	0 38	Nil	70 20
2	Nadia	(0 2)	(0 1)	(3 1)	(10 2)	(14 7)	(15 0)	(13 1)	(17 2)	(11 0)	(15 4)	(Nil)	(Nil)	(100)
		0 07	0 06	1 40	4 66	6 71	6 83	5 97	7 86	5 00	7 08	Nil	Nil	45 59
3	Murshidabad	(Nil)	(0 4)	(2 5)	(4 3)	(14 9)	(14 1)	(25 2)	(19 6)	(13 9)	(4 3)	(0 8)	(Nil)	(100)
		Nil	0 20	1 35	2 30	8 05	7 59	13 61	10 61	7 53	2 30	0 45	Nil	53 90
4.	Burdwan	(0 3)	(0 2)	(3 6)	(9 6)	(13 8)	(13 2)	(22 8)	(19 7)	(12 9)	(3 9)	(Nil)	(Nil)	(100)
		0 17	0 12	1 97	5 21	7 48	7 09	12 36	10 65	6 97	2 13	Nil	Nil	54 15
5	Birbhum	(Nil)	(0 5)	(2 5)	(3 2)	(15 3)	(10 6)	(24 1)	(25 9)	(16 6)	(1 3)	(Nil)	(Nil)	(100)
		Nil	0 33	1 55	1 98	9 43	6 53	14 90	15 97	10 26	0 82	Nil	Nil	61 77
6.	Bankura	(0 5)	(0 3)	(3 0)	(9 3)	(10 2)	(13 7)	(21·5)	(32 5)	(12 9)	(6 1)	(Nil)	(Nil)	(100)
		0 26	0 14	1 58	4 86	5 34	7 15	11 25	11 77	6 77	3 20	Nil	Nil	52 82
7	Midnapore	(0 4)	(1 2)	(1 3)	(9 7)	(11 6)	(12 6)	(19 3)	(17 1)	(18 4)	(8 3)	(0 1)	(Nil)	(100)
		0 24	0 69	0 76	5 49	6 57	7 13	10 93	9 65	10 39	4 70	0 03	Nil	56 58
8	Hooghly	(0 2)	(0 1)	(2 3)	(10 6)	(18 0)	(14 5)	(18 8)	(12 8)	(13 9)	(8 8)	(Nil)	(Nil)	(100)
		0 15	0 05	1 89	8 88	14 09	12 06	15 69	10 63	11 59	7 32	Nil	Nil	83 20
9	Howrah	(Nil)	(–)	(1 1)	(9 2)	(14 0)	(16 6)	(22 1)	(14 3)	(13 8)	(8 9)	(Nil)	(Nil)	(100)
		Nil	0 03	0 99	8 05	12 43	14 70	19 57	12 65	12 23	7 91	Nil	Nil	88 56
10	Jalpaiguri	(0 3)	(0 5)	(0 8)	(8 4)	(9 8)	(20 6)	(19 9)	(20 3)	(11 4)	(7 9)	(–)	(0 1)	(100)
		0 47	0 84	1 34	14 68	17 12	35 82	34 65	35 23	10 81	13 68	0 01	0 21	173 86
11	Darjeeling	(0 2)	(0 7)	(0 2)	(8 1)	(5 4)	(16 2)	(26 0)	(22 0)	(15 8)	(5 2)	(Nil)	(0 2)	(100)
		0 37	1 06	0 30	12 22	8 10	24 49	39 27	33 37	23 85	7 84	Nil	0 24	151 11
12	Malda	(0 1)	(0 7)	(0 2)	(8 5)	(15 5)	(20 7)	(17 7)	(14 7)	(15 2)	(6 7)	(Nil)	(Nil)	(100)
		0 05	0 43	0 13	5 11	9 33	12 42	10 66	8 88	9 10	4 05	Nil	Nil	60 11
13	West Dinajpur	(Nil)	(1 8)	(0 2)	(5 9)	(13 0)	(19 7)	(25 5)	(11 7)	(17 4)	(4 8)	(Nil)	(Nil)	(100)
		Nil	1 27	0 15	4 10	9 10	13 74	17 80	8 13	12 10	3 37	Nil	Nil	69 76
14.	Cooch Behar													
		(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)

TABLE No. 5·1(d)

Districtwise monthly rainfall for 1950(*)

	Districts.	January	February	March	April	May	June	July	August	September	October	November	December	Annual
1.	24-Parganas	(Nil)	(2 3)	(1 4)	(1 1)	(4 7)	(18 7)	(18 8)	(18 2)	(15 1)	(9 3)	(10 4)	(Nil)	(100)
		Nil	1 54	0 98	0 77	3 20	12 64	12 60	12 30	10 18	6 31	7 03	Nil	67 64
2	Nadia	(Nil)	(0 7)	(4 9)	(0 5)	(3 6)	(26 4)	(17 2)	(22 8)	(9 4)	(8 7)	(5 8)	(Nil)	(100)
		Nil	0 44	3 01	0 29	2 20	16 07	10 43	13 86	5 69	5 28	3 52	Nil	60 79
3	Murshidabad	(Nil)	(0 4)	(0 7)	(0 7)	(7 6)	(26 7)	(17 6)	(30 5)	(8 2)	(5 4)	(2 2)	(Nil)	(100)
		Nil	0 19	0 30	0 31	3 45	12 12	8 00	13 89	3 75	2 45	1 02	Nil	45 48
4	Burdwan	(Nil)	(1 1)	(0 7)	(0 3)	(5 9)	(23 0)	(18 0)	(34 7)	(7 6)	(5 1)	(3 6)	(Nil)	(100)
		Nil	0 57	0 37	0 16	3 08	11 86	9 26	17 85	3 91	2 64	1 87	Nil	51 52
5	Birbhum	(Nil)	(0 3)	(0 4)	(0 5)	(7 1)	(20 6)	(20 6)	(35 8)	(8 1)	(5 8)	(0 8)	(Nil)	(100)
		Nil	0 15	0 18	0 24	3 15	9 17	9 16	15 90	3 62	2 59	0 37	Nil	44 53
6.	Bankura	(Nil)	(0 4)	(1 2)	(0 7)	(7 9)	(22 6)	(26 0)	(27 9)	(7 8)	(2 5)	(3 0)	(Nil)	(100)
		Nil	0 25	0 71	0 43	4 69	13 51	15 49	16 65	4 66	1 52	1 78	Nil	59 69
7	Midnapore	(Nil)	(0 3)	(1 5)	(1 3)	(6 3)	(24 8)	(19 9)	(18 7)	(11 5)	(5 9)	(9 8)	(Nil)	(100)
		Nil	0 24	1 03	0 91	4 33	17 08	13 69	12 87	7 90	4 06	6 79	Nil	68 90
8	Hooghly	(Nil)	(0 7)	(2 6)	(2 6)	(7 2)	(21 2)	(15 9)	(16 3)	(12 5)	(8 6)	(12 4)	(Nil)	(100)
		Nil	0 42	(1 63)	1 68	4 59	13 41	10 11	10 35	7 94	5 43	7 88	Nil	63 39
9	Howrah	(Nil)	(0 1)	(0 2)	(2 6)	(6 5)	(29 5)	(16 5)	(16 6)	(11 2)	(4 7)	(12 1)	(Nil)	(100)
		Nil	0 12	0 21	2 40	5 91	26 74	14 84	15 06	10·14	4 24	10 95	Nil	90 61
10.	Jalpaiguri	(Nil)	(0 4)	(1 1)	(2 9)	(10 0)	(18 0)	(24 4)	(21 3)	(15 6)	(6 3)	(–)	(Nil)	(100)
		Nil	0 66	1 58	4 23	14 62	26 38	35 91	31 21	22 91	9 21	0 02	Nil	146 73
11	Darjeeling	(0 1)	(0 4)	(1 1)	(2 0)	(5 4)	(36 4)	(22 6)	(24 0)	(6 0)	(2 0)	(Nil)	(Nil)	(100)
		0 09	0 58	1 76	3 17	8 77	58 31	36 33	38 46	9 67	3 13	Nil	Nil	160 27
12.	Malda	(Nil)	(0 4)	(1 3)	(Nil)	(5 5)	(35 3)	(21 2)	(25 2)	(9 8)	(1 2)	(–)	(0 1)	(100)
		Nil	0 27	0 86	Nil	3 56	22 86	13 71	16 25	6 34	0 76	0 03	0 09	64 73
13	West Dinajpur	(Nil)	(1 0)	(1 0)	(Nil)	(4 4)	(38 9)	(12 8)	(24 4)	(15 9)	(1 6)	(Nil)	(Nil)	(100)
		Nil	0 67	0 64	Nil	2 87	25 24	8 33	15 81	10 29	1 02	Nil	Nil	64 87
14	Cooch Behar	(Nil)	(0 9)	(0 5)	(0 7)	(10 6)	(28 6)	(14 8)	(22 9)	(13 4)	(7 6)	(—)	Nil	(100)
		Nil	0 95	0 54	0 78	11 70	31 56	16 35	25 31	14 83	8 46	0 02	Nil	110 50

(*) *Note.*—The figures within braces show the monthly rainfall as percentage to annual rainfall.

(a) Not available

TABLE No. 5·1(e)

Districtwise monthly rainfall for 1951*

Districts	January.	February	March	April	May	June	July	August	September	October	November	December.	Annual.
1 24-Parganas	(Nil)	(Nil)	(4 9)	(1 9)	(4 8)	(15 0)	(18 3)	(23 9)	(18 2)	(10 1)	(2 8)	(0·1)	(100)
	Nil	Nil	2 56	0 98	2 51	7 87	9 59	12 50	9 54	5 30	1 48	0 05	52 28
2 Nadia	(Nil)	(Nil)	(5 3)	(0 3)	(5 7)	(14 3)	(20 5)	(15 5)	(11 8)	(22 1)	(4 0)	(Nil)	(100)
	Nil	Nil	2 16	0 11	2 35	6 09	8 40	6 37	4 86	9 07	1 65	Nil	41 06
3 Murshidabad	(Nil)	(Nil)	(2 0)	(0 9)	(6 9)	(17 6)	(25 8)	(17 2)	(8 8)	(15 9)	(4 9)	(Nil)	(100)
	Nil	Nil	0 76	0 34	2 00	6 60	9 67	6 44	3 28	5 97	1 84	Nil	37·50
4 Burdwan	(Nil)	(Nil)	(2 8)	(0 5)	(4 6)	(18 3)	(21 7)	(19 6)	(17 0)	(13 4)	(2 1)	(Nil)	(100)
	Nil	Nil	1 20	0 23	1 98	7 84	9 28	8 36	7 26	5 73	0 89	Nil	42 77
5 Birbhum	(Nil)	(0 6)	(1 1)	(1 5)	(4 4)	(12 9)	(22 9)	(20 2)	(14 7)	(19 1)	(2 6)	(Nil)	(100)
	Nil	0 21	0 39	0 51	1 52	4 45	7 90	6 96	5 06	6 60	0 91	Nil	34 51
6. Bankura	(Nil)	(Nil)	(4 8)	(0 7)	(6 1)	(17 8)	(22 9)	(19 7)	(13 5)	(10 9)	(3 6)	(Nil)	(100)
	Nil	Nil	2 02	0 28	2 56	7 44	9 60	8 24	5 66	4 57	1 49	Nil	41 86
7 Midnapore	(Nil)	(Nil)	(9 0)	(1 0)	(7 6)	(14 7)	(19 6)	(19 2)	(15 8)	(9 8)	(3 3)	(Nil)	(100)
	Nil	Nil	4 22	0 48	3 56	6 88	9 19	9 02	7 41	4 58	1 55	Nil	46 89
8 Hooghly	(Nil)	(0 1)	(4 5)	(0 4)	(5 9)	(13 5)	(14 1)	(25 1)	(22 3)	(11 2)	(2 9)	(Nil)	(100)
	Nil	0 04	2 70	0 24	3 54	8 18	8 51	15 18	13 47	6 76	1 80	Nil	60 37
9. Howrah	(Nil)	(Nil)	(5 5)	(0 2)	(6 1)	(11 3)	(22 2)	(26 7)	(18 0)	(7 6)	(2 4)	(Nil)	(100)
	Nil	Nil	3 97	0 13	4 33	8 05	15 77	19 02	12 80	5 42	1 70	Nil	71 19
10 Jalpaiguri	(–)	(Nil)	(0 9)	(2 9)	(11 7)	(17 9)	(30 8)	(13 5)	(13 2)	(7 0)	(2 1)	(Nil)	(100)
	0 06	Nil	1 48	4 86	19 67	30 07	51 71	22 70	22 14	11 69	3 43	Nil	167 81
11 Darjeeling	(–)	(0 1)	(1 1)	(1 9)	(3 0)	(15 1)	(35 1)	(25 7)	(12 3)	(4 1)	(0 7)	(Nil)	(100)
	0 05	0 12	1 56	2 61	5 33	20 78	48 38	35 40	16 93	5 62	0 96	Nil	137 74
12. Malda	(–)	(Nil)	(0 5)	(1 0)	(3 9)	(10 4)	(32 0)	(30 7)	(11 5)	(7 3)	(2 1)	(Nil)	(100)
	0 04	Nil	0 19	0 61	1 52	4 06	12 49	11 97	4 48	2 83	0 82	Nil	39 01
13 West Dinajpur	(Nil)	(Nil)	(0 3)	(4 ?)	(6 8)	(29 9)	(14 6)	(24 9)	(10 9)	(7 0)	(1 4)	(Nil)	(100)
	Nil	Nil	0 17	2 10	3 35	14 77	7 21	12 33	5 41	3 45	0 67	Nil	49 46
14 Cooch Behar	(–)	(Nil)	(1 1)	(2 0)	(10 4)	(26 1)	(28 8)	(13 1)	(13 4)	(4 0)	(1 1)	(Nil)	(100)
	0 03	Nil	1 23	2 31	11 93	29 81	32 93	14 93	15 31	4 60	1 25	Nil	114 88

TABLE No. 5·1(f)

Districtwise monthly rainfall for 1952*

Districts	January	February	March	April	May	June	July	August	September	October	November	December	Annual.
1 24 Parganas	(Nil)	(0 0)	(1 6)	(7 5)	(6 3)	(9 6)	(30 0)	(18 4)	(13 8)	(12 8)	(0 0)	(Nil)	(100)
	Nil	0 01	1 02	4 70	3 95	6 02	18 85	11 55	8 66	8 01	0 01	Nil	62 78
2 Nadia	(Nil)	(0 2)	(2 8)	(12 7)	(5 5)	(13 9)	(20 3)	(13 0)	(17 2)	(14 2)	(0 2)	(Nil)	(100)
	Nil	0 14	1 72	7 81	3 36	8 54	12 45	8 01	10 58	8 72	0 11	Nil	61 46
3 Murshidabad	(Nil)	(0 18)	(3 1)	(7 1)	(3 0)	(15 1)	(28 0)	(19 0)	(12 3)	(10 8)	(0 4)	(Nil)	(100)
	Nil	0 02	1 62	3 13	1 60	7 94	15 24	10 03	6 50	5 71	0 19	Nil	52 68
4 Burdwan	(Nil)	(0 2)	(1 3)	(9 0)	(7 9)	(15 5)	(27 0)	(15 2)	(11 7)	(9 2)	(Nil)	(Nil)	(100)
	Nil	0 08	0 65	4 42	3 87	7 65	13 20	7 47	7 23	4 53	Nil	Nil	49 19
5 Birbhum	(0 1)	(0 2)	(2 5)	(3 9)	(4 1)	(14 9)	(30 5)	(16 3)	(17 6)	(9 2)	(0 7)	(Nil)	(100)
	0 02	0 08	1 11	1 75	1 85	6 70	13 66	7 28	7 86	4 13	0 33	Nil	44 77
6 Bankura	(0 0)	(0 2)	(2 2)	(9 0)	(6 6)	(13 3)	(28 1)	(18 5)	(11 9)	(10 2)	(Nil)	(Nil)	(100)
	0 01	0 07	0 99	3 98	2 94	5 91	12 46	8 20	5 26	4 50	Nil	Nil	44 32
7 Midnapore	(Nil)	(0 0)	(1 3)	(5 7)	(6 2)	(12 1)	(34 9)	(15 9)	(12 8)	(10 9)	(0 2)	(Nil)	(100)
	Nil	0 01	0 77	3 39	3 66	7 20	20 72	9 44	7 57	6 50	0 09	Nil	59 35
8 Hooghly	(Nil)	(Nil)	(2 3)	(11 3)	(6 5)	(8 4)	(30 6)	(14 6)	(15 1)	(10 3)	(0 9)	(Nil)	(100)
	Nil	Nil	1 22	5 95	3 43	4 45	16 18	7 69	7 97	5 42	0 49	Nil	52 75
9 Howrah	(Nil)	(Nil)	(1 2)	(8 1)	(5 3)	(12 8)	(30 2)	(16 2)	(6 2)	(11 0)	(Nil)	(Nil)	(100)
	Nil	Nil	0 88	6 06	4 00	9 60	20 89	12 10	4 61	8 22	Nil	Nil	74 86
10. Jalpaiguri	(Nil)	(0 9)	(2 9)	(5 6)	(12 3)	(16 8)	(20 5)	(17 4)	(19 1)	(3 0)	(0 4)	(0 2)	(100)
	Nil	1 54	5 15	9 91	21 71	29 64	36 21	30 60	33 60	6 92	0 60	0 40	176 46
11 Darjeeling	(Nil)	(0 6)	(2 0)	(3 8)	(9 6)	(17 2)	(19 6)	(20 3)	(23 3)	(3 0)	(0 6)	(–)	(100)
	Nil	0 94	3 10	5 79	14 64	26 43	29 95	31 03	35 66	4 63	0 90	0 01	153 14
12. Malda	(Nil)	(0 1)	(2 2)	(7 5)	(6 3)	(30 8)	(20 1)	(12 7)	(13 5)	(5 9)	(0 9)	(Nil)	(100)
	Nil	0 05	1 39	4 66	3 93	19 20	12 56	7 93	8 45	3 70	0 54	Nil	62 41
13 West Dinajpur	(Nil)	(0 9)	(2 2)	(4 3)	(13 4)	(22 2)	(21 9)	(11 3)	(17 4)	(5 8)	(0 6)	(Nil)	(100)
	Nil	0 85	2 01	3 92	12 22	20 26	20 00	10 30	15 91	5 34	0 59	Nil	91 40
14 Cooch Behar	(Nil)	(0 6)	(3 0)	(4 2)	(24 0)	(14 4)	(21 3)	(13 4)	(13 5)	(4 2)	(1 4)	(Nil)	(100)
	Nil	0 64	3 39	4 85	27 51	16 43	24 27	15 23	15 37	4 80	1 58	Nil	114 07

(*) *Note.*—The figures within braces show the monthly rainfall as percentage to annual rainfall.

TABLE No. 5·1(g)

Districtwise monthly rainfall for 1953 (*)

Districts	January	February.	March	April.	May	June	July	August.	September	October.	November	December.	Annual.
1 24-Parganas	(1 1)	(0 9)	(0 3)	(0 9)	(5 0)	(23 8)	(19 8)	(22 1)	(19 4)	(4 4)	(2 3)	(Nil)	(100)
	0 60	0 52	0 19	0 58	2 82	13 45	11 16	12 42	10 96	2 48	1·27	Nil	56 40
2. Nadia	(0 9)	(1 0)	(1 4)	(0 7)	(3 6)	(23 7)	(27 4)	(19 3)	(19 1)	(1 4)	(1 5)	(Nil)	(100)
	0 82	0 87	1 23	0 63	3 11	20 63	23 86	16 82	16 67	1 19	1 33	Nil	87 16
3 Murshidabad	(3 2)	(0 3)	(0 5)	(0 3)	(3 6)	(19 1)	(38 9)	(16 4)	(15 9)	(1 4)	(0 4)	(Nil)	(100)
	1 79	0 16	0 30	0 14	2 00	10 69	21 72	9 15	8 91	0 78	0·25	Nil	55 89
4 Burdwan	(1 7)	(1 8)	(1 7)	(0 2)	(4 4)	(19 5)	(26 5)	(22 9)	(15 9)	(2 5)	(2 9)	(Nil)	(100)
	0 93	0 95	0 89	0 11	2 32	10 40	14 11	12 21	8 46	1 34	1·54	Nil	53 26
5 Birbhum	(3 1)	(0 1)	(0 1)	(1 3)	(3 2)	(17 4)	(30 8)	(23 6)	(14 2)	(5 1)	(1 1)	(Nil)	(100)
	1 56	0 07	0 04	0 66	1 60	8 68	15·41	11·79	7 03	2 56	0 56	Nil	49·96
6 Bankura	(2 0)	(1 1)	(0 0)	(0 7)	(2 9)	(17 8)	(26 6)	(23 5)	(17 4)	(3 2)	(4 8)	(Nil)	(100)
	0 96	0 53	0 01	0 33	1 44	8 68	13 01	11 47	8 50	1 60	2 34	Nil	48 87
7 Midnapore	(1 8)	(1 1)	(0 6)	(1 4)	(4 6)	(20 9)	(18 7)	(24 4)	(20 4)	(4 2)	(1 9)	(—)	(100)
	1 15	0 61	0 40	0 91	2 93	13 33	11 90	15 54	13 00	2 68	1 20	0 02	63 67
8 Hooghly	(1 2)	(1 1)	(0 8)	(0 6)	(7 2)	(21 8)	(21 4)	(19 3)	(23 9)	(1 8)	(0 9)	(Nil)	(100)
	0 70	0 66	0 47	0 35	4 30	13 07	12 85	11 60	14 38	1 06	0 55	Nil	50 99
9 Howrah	(1 2)	(0 4)	(Nil)	(4 4)	(4 9)	(20 7)	(11 4)	(27 0)	(20 2)	(8 1)	(1 7)	(Nil)	(100)
	0 65	0 20	Nil	2 44	2 76	11 53	6 88	15 02	11 28	4 54	0 94	Nil	55 69
10 Jalpaiguri	(0 3)	(0 3)	(5 0)	(3 4)	(13 8)	(15 3)	(28 4)	(10 0)	(17 1)	(6 0)	(0 1)	(0 3)	(100)
	0 42	0 36	6 14	4 13	16 86	18 65	34 71	12 24	20 88	7 30	0 08	0 32	122 09
11 Darjeeling	(0 6)	(0 1)	(3 5)	(2 2)	(6 8)	(16 8)	(30 9)	(17 4)	(19 8)	(1 7)	(0 1)	(0 1)	(100)
	0 72	0 09	4 16	2 68	8 11	20 04	37 01	20 76	23 64	2 08	0 17	0 12	119 58
12 Malda	(2 1)	(0 1)	(0 8)	(1 3)	(5 6)	(11 0)	(31 3)	(14 2)	(30 8)	(1 8)	(0 1)	(Nil)	(100)
	1 78	0 05	0 66	1 13	4 69	10 03	26 43	11 96	26 01	1 55	0 04	Nil	84 33
13 West Dinajpur	(2 8)	(Nil)	(1 1)	(0 9)	(6 4)	(13 8)	(31 8)	(12 1)	(27 2)	(3 9)	(Nil)	(Nil)	(100)
	2 18	Nil	0 83	0 69	5 01	10 77	24 77	9 45	21 21	3 04	Nil	Nil	77 95
14 Cooch Behar	(0 5)	(0 1)	(1 9)	(2 9)	(12 4)	(22 3)	(25 2)	(10 3)	(19 6)	(4 7)	(Nil)	(0 1)	(100)
	0 58	0 14	2 12	3 25	13 67	24 59	27 77	11 34	21 60	5 16	Nil	0 07	110 29

TABLE No. 5·2

Districtwise average monthly rainfall (*)

Districts.	January	February	March.	April.	May	June	July	August.	September	October.	November	December	Total.
24-Parganas	(0 3)	(1 2)	(2 1)	(3 9)	(7 3)	(16 0)	(22 1)	(20 1)	(15 0)	(8 0)	(3 2)	(0 4)	(100)
	0 22	0 75	1 37	2 48	4 97	10 24	14 12	12 84	9 58	5 14	2 03	0 24	63 98
Nadia	(0 3)	(0 7)	(3 2)	(4 7)	(7 2)	(18 6)	(20 0)	(18 0)	(13 8)	(10 9)	(2 4)	(0 2)	(100)
	0 16	0 41	1 82	2 71	4 14	10 68	11 45	10 32	7 89	6 26	1 36	0 13	57 33
Murshidabad	(0 6)	(0 4)	(1 6)	(2 7)	(7 9)	(17 0)	(25 3)	(20 0)	(14 6)	(7·9)	(1·9)	(0 1)	(100)
	0 29	0 20	0 84	1 37	4 00	8 65	12 89	10 19	7 44	4 03	0 99	0 03	50 91
Burdwan	(0 4)	(0 9)	(2 4)	(3 5)	(7 7)	(16 4)	(24 0)	(22 5)	(13 5)	(6 5)	(2 0)	(0 2)	(100)
	0 20	0 45	1 21	1 75	3 82	8 16	11 98	11 21	6 71	3 26	1 01	0 12	49 88
Birbhum	(0 5)	(0 4)	(1 5)	(2 5)	(6 8)	(14 4)	(25 2)	(25 0)	(14 8)	(7 0)	(1 9)	(—)	(100)
	0 25	0 21	0 69	1 17	3 17	6 74	11 82	11 71	6 93	3 27	0 89	0 01	46 86
Bankura	(0 4)	(0 7)	(2 8)	(3 4)	(7 2)	(15 7)	(24 3)	(22 2)	(14 1)	(6 5)	(2 5)	(0 2)	(100)
	0 20	0 34	1 41	1 71	3·58	7 88	12 18	11 13	7·06	3 23	1 27	0 08	50 07
Midnapore	(0 6)	(1 3)	(2 8)	(3 3)	(7 5)	(16 0)	(21 2)	(16 6)	(16 0)	(7 0)	(4 2)	(0 5)	(100)
	0 35	0 75	1 64	1·90	4 37	9 38	12 32	11 42	9 32	4 07	2 41	0 29	58 17
Hooghly	(0 3)	(1 0)	(3 0)	(4 5)	(10 1)	(16 1)	(17 0)	(19 1)	(17 1)	(7·9)	(3 8)	(0 1)	(100)
	0 18	0 61	1 83	2 78	6 21	9 98	10 45	11 78	10 51	4 87	2 34	0 07	61 56
Howrah	(0 3)	(0 7)	(2 2)	(4 2)	(8 0)	(18 1)	(21 7)	(20 6)	(12 7)	(7 7)	(3·6)	(0 2)	(100)
	0 20	0 52	1 70	3 14	6 05	13 58	16 28	15 48	9 57	5 78	2 71	0 12	75 08
Jalpaiguri	(0 1)	(0 4)	(1·9)	(5 1)	(11·6)	(18 0)	(25 1)	(15·9)	(15 27)	(6 0)	(0 6)	(0 1)	(100)
	0 15	0 60	3 04	7 96	18 15	28 18	39 21	24 84	23 70	9 32	0·98	0 15	156 22
Darjeeling	(0 2)	(0 3)	(1 8)	(3 8)	(6·5)	(19 8)	(27 0)	(21·3)	(15 2)	(3 5)	(0·5)	(0 1)	(100
	0 20	0 44	2 45	5 25	8·92	26 97	36·85	29 07	20·70	4 76	0 78	0 07	136 41
Malda	(0 4)	(0 4)	(0 9)	(2 7)	(6 5)	(19 1)	(26 0)	(18 1)	(19 3)	(5 6)	(1 0)	(—)	(100)
	0 27	0 27	0 55	1 67	3 96	11 68	15 90	11 08	11 77	3 42	0 59	0 02	61 08
West Dinajpur	(0 5)	(0 7)	(0 9)	(2 6)	(8 9)	(22 5)	(22 6)	(16 2)	(19 0)	(5·2)	(0 9)	(Nil)	(100)
	0 31	0 49	0 64	1·83	6 20	15 62	15 70	11 26	13 16	3·56	0 64	Nil	69 41
Cooch Behar	(0 1)	(0 4)	(1 6)	(2 5)	(14 4)	(22 8)	(22 8)	(14·9)	(14 9)	(5·2)	(0·6)	(—)	(100)
	0 15	0 43	1 82	2 78	16 20	25 60	25 83	16·70	16 78	5 76	0 71	0 02	112 28

(*) *Note.*—The figures within braces show the monthly rainfall as percentage to annual rainfall.

TABLE No. 5·3

Average rainfall, maximum and minimum temperature and relative humidity in different months in the two regions of West Bengal (*)

Region	1 January: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent.) 8 0 hrs (I S T)	Relative Humidity (per cent.) 17 0 hrs. (I S T)	2 February: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Mini-mum	Relative Humidity (per cent.) 8 0 hrs (I S T)	Relative Humidity (per cent.) 17 0 hrs. (I.S T.)
I. Himalayan West Bengal	0 40	74 4	51 0	89	57	0 81	70 9	53 8	88	58
II West Bengal Plain	0 41	77 9	53 9	76	49	1 11	82 3	58 4	74	49

Region	3 March: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T)	4 April: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs. (I S T)
I Himalayan West Bengal	1 62	85 2	60 3	73	40	6 05	[illegible]	68 1	73	42
II West Bengal Plain	1 06	92 0	67 3	64	39	1 43	98 0	75 0	67	37

Region	5 May: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T)	6 June: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs. (I S T).
I Himalayan West Bengal	14 56	80 5	72 6	82	66	29 20	88 6	75 7	80	78
II West Bengal Plain	4 53	97 0	77 6	75	62	0 93	93 1	79 0	82	75

Region	7 July: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T)	8 August: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T).
I Himalayan West Bengal	31 16	88 6	77 3	91	80	25 12	88 8	77 8	90	80
II West Bengal Plain	12 28	89 5	78 9	86	81	12 14	88 8	78 6	87	81

Region	9 September.: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T)	10 October: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T).
I. Himalayan West Bengal	21 69	88 1	75 9	90	79	6 21	86 7	70 3	86	71
II. West Bengal Plain	8 27	89 5	78 8	85	80	3 05	88 7	73 5	80	73

Region	11 November: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs. (I S T)	12 December: Average Rainfall (in inches)	Temperature (F°) Maximum	Temperature (F°) Minimum	Relative Humidity (per cent) 8 0 hrs (I S T)	Relative Humidity (per cent) 17 0 hrs (I S T)
I Himalayan West Bengal . .	0 55	82 0	60 8	83	67	0 19	76 7	53 2	87	65
II. West Bengal Plain . ..	0 70	83 5	63 2	74	61	0 13	78 1	55 0	75	56

(*) *Source* Census of India, Paper No. 2 of 1952, Section XIX.

TABLE No. 5·4

Average monthly maximum and minimum temperature at some Stations in West Bengal (In F°)

Station	1 January		2 February		3 March		4 April		5 May		6 June	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
Darjeeling	49 6	36 1	50 2	37 4	56 8	48 3	61 9	49 1	64 5	53 5	66 6	57 0
Kalimpong	60 7	46 6	62 6	48 1	68 5	58 3	72 4	58 5	75 0	62 7	76 1	66 8
Jalpaiguri	75 3	51 7	77 7	54 5	84 4	61 8	86 7	68 8	87 1	78 8	87 1	76 1
Malda	75 6	52 1	79 8	54 8	89 9	63 7	93 6	71 4	94 4	76 1	92 8	78 6
Alipur (Calcutta)	79 9	56 6	84 8	61 0	93 4	70 7	95 8	76 3	95 7	79 7	94 0	80 8
Sagar Island (South 24-Parganas)	76 4	60 2	80 8	65 3	85 8	74 8	87 6	78 7	89 5	80 9	89 8	81 7
Krishnagar	79 8	52 4	84 7	56 1	94 3	66 0	97 3	73 3	97 4	77 2	94 6	78 7
Berhampore	78 4	58 9	82 6	56 0	92 9	64 8	96 8	72 3	97 6	77 1	94 5	79 0
Asansol	78 1	55 0	82 4	57 7	93 3	66 7	98 5	73 6	101 3	78 7	97 8	79 8
Burdwan	79 1	55 5	83 1	58 9	93 6	68 5	97 3	74 8	98 1	78 4	95 0	79 5
Midnapore	79 7	55 8	84 6	60 2	95 0	69 3	99 2	75 4	99 7	79 1	96 3	80 0
Chinsurah	83 2	54 8	88 3	64 1	98 5	71 7	103 6	77 9	99 4	80 8	94 5	80 3
Bankura	78 4	54 8	87 6	61 0	98 9	70 3	105 9	76 9	104 2	80 2	96 2	78 8
Maynaguri (Jalpaiguri District)	68 8	51 9	76 7	58 2	83 0	64 0	80 2	70 9	88 9	74 2	88 6	75 9

Station	7 July		8 August		9 September		10 October		11 November		12 December	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
Darjeeling	66 5	58 3	66 9	57 8	65 9	56 7	63 0	50 8	57 2	43 3	52 5	37 7
Kalimpong	76 1	67 1	76 0	66 6	75 2	65 7	73 4	60 3	68 4	51 6	62 0	46 8
Jalpaiguri	87 8	77 1	88 1	77 1	87 4	75 8	86 6	70 3	82 8	60 7	77 8	58 1
Malda	89 2	79 1	88 7	79 1	88 9	78 4	87 1	72 8	82 5	62 2	77 1	53 5
Alipur (Calcutta)	80 6	70 5	89 6	70 3	90 3	78 0	89 2	75 0	85 7	65 6	80 5	57 4
Sagar Island (South 24-Parganas)	80 2	80 3	86 2	79 7	86 8	70 8	86 0	76 0	82 6	68 9	77 5	61 5
Krishnagar	90 4	78 4	90 2	78 2	91 3	77 9	90 1	73 2	86 4	62 7	80 0	53 6
Berhampore	90 5	78 8	90 3	78 8	91 2	78 4	80 0	73 5	85 2	63 8	79 4	55 4
Asansol	89 6	78 0	88 7	77 7	89 5	77 3	88 2	71 5	84 5	61 1	78 8	53 8
Burdwan	80 6	78 9	89 3	78 6	90 1	78 6	88 7	74 4	84 0	64 3	80 0	56 3
Midnapore	89 1	78 4	89 3	78 3	90 3	77 8	88 3	73 1	84 4	62 8	79 7	55 8
Chinsurah	92 6	80 2	91 2	80 0	92 7	80 2	92 7	77 1	90 0	62 6	80 9	57 0
Bankura	90 6	77 9	89 3	78 0	80 5	77 6	89 0	72 3	82 9	61 0	70 7	56 2
Maynaguri (Jalpaiguri District)	87 9	76 3	89 9	77 4	89 4	76 7	85 3	71 9	77 8	62 1	72 2	55 1

TABLE No. 5·5

Average monthly relative humidity (per cent.) at some stations in West Bengal (Mean of 8 hours)

Station	January	February	March	April	May	June	July	August	September	October	November	Decemb
Darjeeling	80	81	77	82	91	95	98	96	95	84	75	73
Kalimpong .	80	79	76	80	85	92	94	94	93	83	79	78
Jalpaiguri	91	87	75	76	82	90	80	89	90	84	85	90
Malda	79	71	61	69	78	84	87	87	85	80	76	76
Alipur (Calcutta)	86	82	77	79	78	84	88	89	89	86	81	81
Sagar Island .	78	75	75	78	79	82	86	86	84	81	75	73
Krishnagar	82	76	73	78	80	85	89	90	87	82	78	82
Berhampore ..	77	70	63	71	76	82	87	86	83	78	75	75
Asansol ..	74	68	54	62	60	76	87	88	86	81	75	71
Burdwan ..	75	68	68	75	78	82	87	87	85	81	76	73
Midnapore ..	78	71	68	73	76	80	7	88	87	4	74	69

TABLE No 5 6

Corresponding readings in degree Fahrenheit (°F) and degree Centigrade (°C)

°F	°C	°F	°C	°F	°C	°F	°C
30	−1 1	53	11 7	76	24 4	99	37 2
31	−0 6	54	12 2	77	25 0	100	37 8
32	0 0	55	12 8	78	25 6	101	38 3
33	0 6	56	13 3	79	26 1	102	38 9
34	1 1	57	13 9	80	26 7	103	39 4
35	1 7	58	14 4	81	27 2	104	40 0
36	2 2	59	15 0	82	27 8	105	40 6
37	2 8	60	15 6	83	28 3	106	41 1
38	3 3	61	16 1	84	28 9	107	41 7
39	3 9	62	16 7	85	29 4	108	42 2
40	4 4	63	17 2	86	30 0	109	42 8
41	5 0	64	17 8	87	30 6	110	43 3
42	5 6	65	18 3	88	31 1	111	43 9
43	6 1	66	18 8	89	31 7	112	44 4
44	6 7	67	19 4	90	32 2	113	45 0
45	7 2	68	20 0	91	32 8	114	45 6
46	7 8	69	20 6	92	33 3	115	46 1
47	8 3	70	21 1	93	33 9	116	46 7
48	8 9	71	21 7	94	34 4	117	47 2
49	9 4	72	22 2	95	35 0	118	47 8
50	10 0	73	22 8	96	35 6	119	48 3
51	10 6	74	23 3	97	36 1	120	48 8
52	11 1	75	23 9	98	36 7		

TABLE No 5 7

Atmospheric pressure in inches of standard mercury expressed in terms of millibars

Inches	Millibars	Inches	Millibars
27 0	914 3	27 8	941 4
27 1	917 7	27 9	944 8
27 2	921 1	28 0	948 2
27 3	924 5	28 5	965 1
27 4	927 9	29 0	982 1
27 5	931 3	29 5	999 0
27 6	934 6	30 0	1,015 9
27 7	938 0	30 5	1,032 9
		31 0	1,049 8

As is known, atmospheric pressure is usually measured with the help of mercury barometers It is expressed mostly in terms of ' millibars'' but, often, the reading is noted in terms of inches'' of standard mercury also This table shows the corresponding readings between two measures Roughly speaking, change in 0 1 inches corresponds to change by 3 4 millibars

TABLE No 5 8

Conversion of rainfall data from inches to millimetres (mm)

As is known, rain fall data is expressed in terms of inches but with the introduction of metric system of measures, it may now be necessary to express it in terms of centimetres or millimetres

1 centimetre = 10 millimetre and
1 inch = 2 54 centimetre
= 25 4 millimetre

With the help of these conversion factors, inches can be expressed in terms of centimetres or millimetres and vice versa

Case I —To express inches in terms of millimetre
Roughly speaking, 4 inches = 100 mm — 10cm

Example (1)—Convert 24 36 inches of rainfall in terms of mm
Division of 24 36 by 4 gives 6 09
∴24 36 inches may be taken roughly as 609 mm (actually it is 618 7mm), *i e* , 60 9 cm

Example (2)—Convert 14 57 inches of rainfall in terms of mm
Division of 14 57 by 4 gives 3 64
∴14 57 inches may be taken roughly as 364 mm (actually it is 370 1 mm), *i e* , 36 4 cm

N B —Obviously, for accurate conversion, this rough procedure should not be adopted

Case II —To express millimetres in terms of inches
Roughly speaking, 71 inch - 2 5 cm
i e , 1 cm = 2/5 inches — 4/10 inches — 0 4 inches

Example (1)—To express 25 millimetres in terms of inches
25 mm = 2·5 cm
2 5 cm = 4/10 × 2 5 inches
= 4 × 0 25 inches = 1 inch

Example (2)—To express 90 millimetre in terms of inches
90 mm = 9 0 cm
9 0 cm = 4/10 × 9 0 inches
= 4 × 0 9 inches = 3·6 inches.

TABLE No 6·1

Area irrigated and crops irrigated in different districts of West Bengal for the year 1947-48

District	I—Area irrigated during the year from—						II —Crops irrigated.											
	Govern-ment canals.	Private canals.	Tanks	Wells	Other sources.	Total	Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses.	Sugar-cane	Other food-crops	Cotton	Other non-food crops.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1. 24-Parganas		7,350	1,770		8,802	17 922	2,522	3				75	7,082	8,240				17,922
2 Nadia					2,060	2,060	318						480	512	750	.		2,060
3 Murshidabad		5,400	110,100	121	53,340	168,961	156,205	3,526	450			80	2,750	3,900	850		1,300	169,061
4 Burdwan	190 ,545	500	100,000	1,500	20,000	312 545	283,194	2,460	600			200	15,000	10,300	400		630	312,784
5 Birbhum	10,647	4,925	262,339	380	49,435	327 726	314,019	2,000	300	69	43	100	8,500	8,000	400		650	334,081
6 Bankura	1,448	26,000	344,130	1,030	6,369	378,977	371 877	6,100	1,600				5,290	3,000	1,700	100	2,000	391,667
7 Midnapore	67,710	71,092	94 823	1,340	352,597	587 562	358,835	1,146	43	455	200	1,600	13,885	3,900	7,000		600	587,664
8 Hooghly	6,377	6,020	16,400	700	55,300	84,797	63,800	38	100			100	16,000	2,500	7,000		600	90,138
9 Howrah	636	2,000	1,000		2,200	5 836	6,150						150	500				6,800
10 Jalpaiguri		100,000		4,000		104 000	100,290	200					1,060	1,700	750			104,000
11 Darjeeling					53,950	53,950	46,544	470	400			2,820	1,316		2,000		400	53,950
12. Malda			5,000			5,000	5,000										.	5,000
13 West Dinajpur			6,625	7		6,632	55		237				5,265	1,075				6,632
14 Cooch Behar																		
Total West Bengal	277,363	223,287	942,187	9,078	604,053	2,055 968	1,908,809	15,943	3,730	524	243	4,975	76,778	43,627	20 850	100	6,180	2,081,759

TABLE No. 6·2

Area irrigated and crops irrigated in different districts of West Bengal for the year 1948-49

District	I —Area irrigated during the year from—						II —Crops irrigated											
	Govern-ment canals.	Private canals.	Tanks	Wells	Other sources	Total	Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses	Sugar cane	Other food crops	Cotton.	Other non-food crops	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1 24-Parganas		7,400	1,800	.	8,800	18,000	2,360	100				80	7,760	6,605	1,710		612	19,227
2 Nadia		200	100	150	2,000	2,450	500	100	20				500	500	630			2,450
3. Murshidabad		4,504	91,947	57	53,245	149,753	145,517	1,805	100				300	1,933	103			149,758
4. Burdwan	194,884	1,200	79,640	14,000	28,299	318,023	310,347	5,000	405				7,245	12,100	2,000		1,000	338,097
5 Birbhum	10,464	4,900	262,339	380	49,400	327,483	366,309	2,690	250	72	70		8,474	8,000		.	1,000	386,865
6 Bankura	1,448	30,000	300,000	2,000	4,000	337 448	324,441	2,019	550			1,050	6,078	1,510	1,050	100	650	337,448
7. Midnapore	67,031	89,403	87,457	2,000	233,900	479,791	462,795	461				5	3,745	1,235	11,560			479,801
8. Hooghly	6,641	1,406	38,615	20	32,500	79,182	71,006	1,003	84					1,858	6,800		..	80,751
9. Howrah	326	2,000	1,000		2,200	5,526	6,550						150	500				7,200
10. Jalpaiguri		100,000		4,000		104,000	100,300	200					1,100	1,700	800			104,100
11. Darjeeling					54,000	54,000	46,600	500	400			2,800	1,300		2,000		400	54,000
12. Malda			10,177			10 177	10,177											10,177
13. West Dinajpur			6,600	7		6,607	50		237				5,265	1,075				6,627
14. Cooch Behar																		
Total West Bengal	280,794	241,013	879,675	22,614	468,344	1,892,440	1,846,952	13,878	2,046	72	70	3,935	41,917	37,016	26,853	100	3,662	1,976,501

TABLE No. 6·3

Area irrigated and crops irrigated in different districts of West Bengal for the year 1949-50

District	I—Area irrigated during the year from—						II—Crops irrigated											
	Govern-ment canals	Private canals	Tanks	Wells	Other sources	Total	Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses	Sugar cane	Other food crops	Cotton	Other non-food crops	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1 24-Parganas		18,463	11,933	78	4 809	35 283	19,070					125	468	1,576	16,488		1,111	38,838
2 Nadia		3,035	762	55	4 047	7 899	4 646	707					300	964	1,282			7,899
3 Murshidabad		9 436	92,460	80	54 719	156 695	139 981	3,482	1 066				1 870	5,245	7,935		1,842	161,420
4 Burdwan	193,753	1 200	79 640	4 000	45 017	323 610	325 001	4 000	350					10 200				340,151
5 Birbhum	8,965	14 903	330 469	165	168,128	522,630	508 521	5 865	83	168	91	1 235	2,969	6 713	1 519			527,164
6 Bankura	3,047	35 000	370 000	3 000	7 985	419 032	406 432	3,000	1 200			1,300	2,400	3,200	1,000	100	400	419,032
7 Midnapore	69,031	104 303	90,050	2,400	292,375	558 159	518 612	720	50		40	50	41,170	1,596	1,262		2,445	565,959
8 Hooghly	4,192	6 000	36,000	700	35,000	81,892	84 000	10	100			100	1,000	2,100	25,600		1,000	113,910
9 Howrah		1 800	1 000		2,000	4 800	5 000						50	400	3,200		800	9,450
10 Jalpaiguri		109 025	4,103	4 200		117 328	113 836		100			1 580	525	787	500			117,328
11 Darjeeling		600		25	66,000	66 625	56 566	800	320			5 625	820	69	1,025		1,400	66,625
12 Malda			12,150			12 150	12,150											12,150
13 West Dinajpur			6,908			6 908	3,494	300	254					525	2,300		35	6,908
14 Cooch Behar				15,897	348	16,245											16,245	16,245
Total West Bengal	278 988	303,765	1 035,475	30,600	680,428	2,329,256	2 197,913	18,893	3,523	168	131	10,015	51 572	33,375	62,111	100	25,278	2,403,079

TABLE No. 6·4

Area irrigated and crops irrigated in different districts of West Bengal for the year 1950-51

District	I—Area irrigated during the year from—						II—Crops irrigated											
	Govern-ment canals	Private canals	Tanks	Wells	Other sources	Total	Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses	Sugar-cane	Other food-crops	Cotton	Other non-food crops.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1 24 Parganas		32,743	13 953		1,195	47,891	31,150						6,193	1,600	15 335			54,278
2 Nadia		1 625	1 572		2 500	5,697	1 500							650	2,053	10	1,484	5,697
3 Murshidabad		9 000	93 500		54 719	157,219	149 115	3,245						4 410	7,170		328	164,268
4 Burdwan	195 720	19,791	79,640	4,000	45,017	344,168	328,618	4,500	460				4,000	6,590				344,168
5 Birbhum	9,221	16,583	330 469	70	168 128	524,471	523 498	7,437	109	41	25	117	6 231	4,060		32	350	541,960
6 Bankura	3,609	39,512	370,000	2,982	5,376	421,479	403,100	6 675	1,276			1,000	2,605	2,980	3,266		577	421,479
7 Midnapore	40 121	165 202	90 250	2,550	273 000	571,123	536,970	920			20	120	32,350	1,670	2,276	100	450	574,875
8 Hooghly	1,105	23,000	37,000	700	60,000	121,805	85,000	1,600	100			100	5,000	1,600	35,000		1,500	129,900
9 Howrah		5,000	1,500		5,000	11,500	6,000						100	2,500	5,000		1,000	14,600
10 Jalpaiguri	9 125	111,423	3,800	4,323		128 671	125,496		30			2,332	623	328	617			129,426
11 Darjeeling		625		30	68 000	68,655	57 998	825	380			5,880	695	77	1 326		1,474	68,655
12 Malda			13 027			13,027	13 000	27										13,027
13 West Dinajpur		7,000	7 000			14 000	10 000	500	300					200	3,000			14,000
14 Cooch Behar				16,296	348	16,644											16,644	16,644
Total West Bengal	258,901	431,504	1,041,711	30,951	683,283	2,446,350	2,271,445	25,729	2,655	41	45	9,609	57,797	26,665	75,042	142	23,807	2,492,977

TABLE No. 6·5(i)

Area irrigated in different districts of West Bengal for the year 1951-52

	District	Area irrigated from—					
		Government canal (Acres)	Private canals (Acres)	Tanks. (Acres)	Wells. (Acres)	Other sources. (Acres)	Total (Acres).
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	24-Parganas		80,100	13,210		1,000	94,310
2	Nadia		5,030	1,570		2,700	9,300
3	Murshidabad	3,300	35,000	94,000		49,800	182,100
4	Burdwan	200,520	45,690	100,100	4,000	50,100	400,410
5	Birbhum	117,540	30,480	200,500	100	180,000	528,620
6	Bankura	11,040	57,580	381,000	3,330	6,600	459,550
7	Midnapore	66,030	235,200	90,780	2,580	273,200	667,790
8	Hooghly	7,180	42,900	37,500	700	62,000	150,280
9	Howrah	120	22,390	1,500		8,000	32,010
10	Jalpaiguri	12,780	120,000	3,400	2,750	Nil	139,830
11	Darjeeling	2,440	1,780			68,000	72,220
12	Malda	Nil	10,300	6,680			16,980
13	West Dinajpur	Nil	11,750	8,500			20,250
14	Cooch Behar	Nil			16,500	500	17,000
	Total West Bengal	420,950	690,100	938,740	29,960	701,900	2,790,650

TABLE No. 6·5(ii)

Crops irrigated in different districts of West Bengal for the year 1951-52

	District	Crops irrigated.					
		Rice (Acres)	Wheat (Acres)	Barley (Acres)	Jowar (Acres)	Bajra (Acres)	Maize (Acres)
	(1)	(2)	3	(4)	(5)	(6)	(7)
1	24 Parganas	79,300	330				
2	Nadia	6,600					
3	Murshidabad	170,930	7,540				
4	Burdwan	390,430	5,000	1,200			
5	Birbhum	501,040	7,710	100			200
6	Bankura	441,800	7,000	400			1 000
7	Midnapore	629,330	880	20		.	120
8	Hooghly	126,000	600				
9	Howrah	32,950					
10	Jalpaiguri	131,130					2,000
11	Darjeeling	45 230	820	150			20,900
12	Malda	16,680	100				
13	West Dinajpur	17,500	700	500			
14	Cooch Behar						
	Total West Bengal	2,591 920	30 680	2,370			24,220

	District	Crops irrigated					
		Other cereals and pulses (Acres)	Sugarcane (Acres)	Other food crops (Acres)	Cotton (Acres)	Other non-food crops (Acres)	Total (Acres)
		(8)	(9)	(10)	(11)	(12)	(13)
1	24 Parganas	2,500	2,110	12,830		700	97,700
2	Nadia		800	1,900	100	600	10,000
3	Murshidabad		3,410	6,620		500	180,000
4	Burdwan	7,000	8,200	37,900	300	800	450,830
5	Birbhum	6,200	5,010	8,230		130	528,620
6	Bankura	2,700	3,000	3,300		370	459,570
7	Midnapore	45,520	1,660	2,280	380	1,000	681,190
8	Hooghly	4,000	2 000	20,000		200	152,800
9	Howrah	100	800	2,320		50	36,220
10	Jalpaiguri	600	200	2,900			139 830
11	Darjeeling	390	50	3,200		1,480	72,220
12	Malda			210			16,990
13	West Dinajpur		900	4,000		.	23,600
14	Cooch Behar					17,000	17,000
	Total West Bengal	60,010	28,140	105,690	780	22,830	2,875,640

TABLE No. 6·6(i)

Area irrigated in different districts of West Bengal for the year 1952-53(*)

	District	Area irrigated from — Government canals (Acres)	Private canals (Acres)	Tanks (Acres)	Wells (Acres)	Other sources (Acres)	Total (Acres)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	24 Parganas		82,730	19,390		1,380	103,500
2	Nadia		6,500	1 570		2,480	10,550
3	Murshidabad		35,000	94,000		30,900	159,900
4	Burdwan	205,104	50 000	100,800	4,000	50,100	410,040
5.	Birbhum	9,650	36,500	200,500	400	140,000	387,050
6.	Bankura	6,330	60,000	262,000	3,000	10,000	341,330
7	Midnapore	63,860	300,200	92,670	10,500	210,000	677,230
8	Hooghly	10,190	66,500	38,300	720	65,000	180,710
9	Howrah	140	34,780	1,500		15,000	51,420
10	Jalpaiguri	11,780	148,000	3,000	2,650		165,430
11	Darjeeling	2 140	2,700			50,000	54,840
12	Malda		10,000	13,500			23,500
13	West Dinajpur		17,350	12,300			29 650
14	Cooch Behar		7,000		16,500	1,500	25,000
	Total West Bengal	309,230	857,260	839,530	37,770	576,360	2,620,150

TABLE No. 6·6(ii)

Crops irrigated in different districts of West Bengal for the year, 1952-53(*)

	District	Crops irrigated — Rice (Acres)	Wheat (Acres)	Barley (Acres)	Jowar (Acres)	Bajra (Acres)	Maize (Acres)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	24 Parganas	87,000	200	10			
2	Nadia	8 000	200				
3	Murshidabad	145,000	10,000	1,100			
4	Burdwan	400,000	3,000	1,000			
5	Birbhum	370,000	10,900	600	100		2,200
6	Bankura	332,630	8,000	250			500
7	Midnapore	630,000	800	30			200
8	Hooghly	154,400	400				
9	Howrah	49,500					
10	Jalpaiguri	160,730					1,500
11	Darjeeling	44,240	500	100			5,700
12	Malda	23,000	1,000				
13	West Dinajpur	22,750	1,500	800			
14	Cooch Behar						
	Total West Bengal	2,428,250	30,500	3,890	100		10,100

	Districts	Crops irrigated — Other cereals and pulses (Acres)	Sugarcane (Acres)	Other food crops (Acres)	Cotton (Acres)	Other non-food crops (Acres)	Total (Acres)
		(8)	(9)	(10)	(11)	(12)	(13)
1	24 Parganas	2,000	1,250	15,300	20	40	105,820
2.	Nadia		820	800	10	80	10,910
3	Murshidabad		2,800	2,830		300	162,030
4	Burdwan	7,000	8,300	30,900	100	1,000	451,300
5	Birbhum	6,200	7,500	8,000	100	100	405,700
6	Bankura	2,000	2,000	2,000	50	100	347,630
7	Midnapore	50,330	2,750	2,300	400	800	687,610
8	Hooghly	2,000	1,000	26,000		100	183,900
9.	Howrah	100	400	2,500		25	52,525
10	Jalpaiguri	600	100	2,500			165,430
11	Darjeeling	100	100	4,000		400	55,140
12	Malda			800			24,800
13	West Dinajpur		1,100	4,500		..	30,650
14.	Cooch Behar	1,000		1,000		23,000	25,000
	Total West Bengal	71,330	28,120	103,430	680	25,945	2,708,345

(*) See tables A.35, A.35(a) A.36, A.36(a) for figures of 1953-54 and 1954-55.

TABLE No. 8·1

Classification of area in different districts of West Bengal for the year 1947-48

(In thousand acres)

	District	Area of the district	Area under forest ([1])	Area not available for cultivation	Other uncultivated land excluding current fallow	Current fallows	Net area sown	Total cropped area	Area sown more than once
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	24-Parganas	3,366 6	1,042 8	426 7	344 9	78 1	1,474 1	1,626 2	152 1
2.	Nadia	965 7		83 0	105 6	34 6	742 5	984 9	242 4
3.	Murshidabad	1,321 3		171 2	48 5	39 5	1,062 1	1,361 0	298 9
4	Burdwan	1,731 4		310 0	198 4	73 9	1,149 1	1,206 5	57 4
5	Birbhum	1,115 3		141 9	158 3	35 0	780 1	824 6	44 5
6	Bankura	1,694 0		345 0	259 7	300 7	788 6	853 9	65·3
7	Midnapore	3,361 8		670 3	300 6	166 5	2,224 4	2,334 1	109 7
8	Hooghly	773 4		143 8	29 8	16 5	583 3	613 7	30 4
9	Howrah	358 1		80 9	21 2	2 6	253 4	287 1	33 7
10	Jalpaiguri	1,519 6	363 3	180 3	264 0	30 6	681 4	730 5	49 1
11.	Darjeeling	767 8	289 8	178 0	66 9	14 0	219 1	257 8	38 7
12	Malda	890 9		83 9	64 7	12 4	729 9	932 1	202 2
13	West Dinajpur	931 5	.	151 7	55 7	70 6	653 5	710 2	56 7
14	Cooch Behar								
	Total West Bengal	18,797 4	1,695 9	2,966 7	1,918 3	875 0	11,341 5	12,722 6	1,381 1

TABLE No. 8·2

Classification of area in different districts of West Bengal for the year 1948-49

(In thousand acres)

	District	Area of the district	Area under forest([1])	Area not available for cultivation	Other uncultivated land excluding current fallow	Current fallows	Net area sown	Total cropped area	Area sown more than once
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	24-Parganas .	3,366 6	1,024 8	430 6	340 8	52 2	1,500 2	1,651 6	151·4
2.	Nadia	965 7		87·1	99 9	98 7	680 0	925 9	245 9
3.	Murshidabad	1,321 3	.	172 2	110 7	89 9	948 5	1,238·4	289·9
4	Burdwan	1,731 4	.	314 4	179 6	100 3	1,137 1	1,188 0	50 9
5.	Birbhum	1,115 3		145 8	149 3	29 2	791 0	861 6	70 6
6.	Bankura .	1,694 0		346 6	269 2	158 3	919 9	980 8	60 9
7	Midnapore	3,361 8	..	672 3	284 5	162 3	2,242 7	2,375 8	133 1
8.	Hooghly	773 4		138 5	32 5	32 3	570 1	605 3	35·2
9.	Howrah	358 1		78 5	20 4	11 6	247 6	262 8	15 2
10	Jalpaiguri	1,519 6	363 3	182 3	245 0	90 2	638 8	684 6	45·8
11	Darjeeling	767 8	289 8	178 0	50 1	8 2	241 7	250 7	9 0
12	Malda	890 9		84 9	63 7	53 0	689 3	836 4	147 1
13	West Dinajpur	931 5		153 9	67 3	90 6	619 7	702 2	82 5
14	Cooch Behar							.	.
	Total West Bengal	18,797·4	1,695 9	2,985·1	1,913 0	976 8	11,226 6	12,564 1	1,337 5

([1])Forest means "any land classed or administered as forest under any legal enactment dealing with forests"

TABLE No. 8·3

Classification of area in different districts of West Bengal for the year 1949-50

(In thousand acres)

	District	Area of the district	Area under forest(1)	Area not available for cultivation	Other uncultivated land excluding current fallow	Current fallows	Net area sown	Total cropped area	Area sown more than once
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	24-Parganas	3,366 6	1,042 8	430 8	340 0	71 0	1,482 0	1,634 7	152 7
2	Nadia	965 7		87 4	99 0	109 0	670 3	822 5	152 2
3	Murshidabad	1,321 3		172 5	109 6	34 0	1,005 2	1 290 6	285 4
4	Burdwan	1,731 4		314 5	178 1	58 3	1,180 5	1,231 6	51 1
5	Birbhum	1,115 3		145 9	149 1	23 5	796 8	867 6	70 8
6	Bankura	1,694 0		346 7	269 1	220 1	858 1	913 9	55 8
7	Midnapore	3,361 8		672 5	282 4	102 0	2,304 9	2,438 2	133 3
8	Hooghly	773 4		138 7	29 0	11 9	593 8	636 1	42 3
9	Howrah	358 1		78 7	19 3	7 6	252 5	295 3	42 8
10	Jalpaiguri	1,519 6	364 6	182 5	244 2	98 8	629 5	674 5	45 0
11	Darjeeling	767 8	289 8	178 1	50 1	33 8	216 0	228 0	12 0
12	Malda	890 9		85 1	63 0	85 4	657 4	797 5	140 1
13	West Dinajpur	931 5	..	154 2	66·4	77 1	633 8	719 8	86 0
14	Cooch Behar	843 7(2)	15 4	75 1	130 2	160 5	439 4	460 7	21 3
	Total West Bengal	19 641 1	1,712 6	3 062 7	2,029 5	1 003 0	11 720 2	13,011 0	1,290 8

TABLE No. 8·4

Classification of area in different districts of West Bengal for the year 1950-51

(In thousand acres)

	District	Area of the district	Area under forest(1)	Area not available for cultivation	Other uncultivated land excluding current fallow	Current fallows	Net area sown	Total cropped area	Area sown more than once
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	24-Parganas	3 366 6	1,042 8	506 2	309 6	88 6	1 419 4	1,604 4	185 0
2	Nadia	965 7		88 4	93 3	205 5	578 5	806 5	228 0
3	Murshidabad	1,321 3		172 9	109 1	30 6	1,008 7	1,410 8	402 1
4	Burdwan	1,731 4		346 2	162 6	60 0	1,162 6	1,204 8	42 2
5	Birbhum	1,115 3		196 8	86 8	25 0	806 7	867 6	60 9
6	Bankura	1,694 0		300 0	248 0	221 4	924 6	966 1	41 5
7	Midnapore	3,361 8		673 5	247 7	102 9	2,337 7	2 446 4	108 7
8	Hooghly	773 4		138 0	29 8	8 8	596 8	645 5	48 7
9	Howrah	358 1		78 0	15 6	11 1	253 4	286 7	33 3
10	Jalpaiguri	1,519 6	364 0	210 1	230 0	101 3	614 2	651 1	36 9
11	Darjeeling	767 8	289 7	177 2	49 8	32 9	218 2	240 0	21 8
12	Malda	890 9		85 5	59 6	83 4	662 4	800 2	137 8
13	West Dinajpur	931 5		154 0	63 0	68 4	646 1	731 4	85 3
14	Cooch Behar	843 7(2)	15 2	86 9	124 9	92 9	500 7	572 7	72 0
	Total West Bengal	19,641 1	1,711 7	3,213 7	1,829 8	1,132 8	11 730 0	13,234 2	1 504 2

(1)Forest means "any land classed or administered as forest under any legal enactment dealing with forests"

(2)Out of 843,700 acres, 23,100 acres are under Pak bounded enclaves for which the returns of Agricultural Statistics are not available

TABLE No. 8·5

Classification of area in different districts of West Bengal for the year 1951-52

(In thousand acres)

Districts	Total geographical area: By professional survey (¹)	Total geographical area: Deduct the area under Pak bounded enclaves for which the returns for Agricultural Statistics are not available	Total geographical area: Net area by professional survey for which the returns for Agricultural Statistics are available	Classifications: Forests (²)	Classifications: Not available for cultivation	Classifications: Other uncultivated land excluding current fallow	Classifications: Current fallow	Classifications: Net area sown	Total cropped area	Area sown more than once
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. 24-Parganas .	3,630 2		3,630.2	1,042 8	609·2	815 6	70 3	1,592 3	1,783 1	190 8
2 Nadia ..	965·8	.	965 8	.	100 5	95 8	193 9	575 6	839 7	264 1
3 Murshidabad .	1,326 1	.	1,326.1		177·5	104 3	31 5	1,012 8	1,422 8	410 0
4. Burdwan	1,731 5		1,731 5		349 8	158 8	113 3	1,109 6	1,195 4	85 8
5 Birbhum	1,115 5		1,115 5		198 6	84 2	72 1	760 6	819 6	59 0
6 Bankura	1,694 0		1,694 0		330 0	240 5	312 7	810 8	852 2	41 4
7 Midnapore	3,362 0	.	3 362 0		676 6	250 7	259 0	2,175 7	2,282 7	107 0
8 Hooghly	773 4		773 4		139 3	30 0	4 0	600 1	649 3	49 2
9 Howrah	358 5		358 5		79·6	14 8	5 4	258 7	292 7	34 0
10 Jalpaiguri	1,519 6		1,519 6	364 0	210 5	220 0	61 7	663 4	701 4	38 0
11 Darjeeling	767 8		767 8	289 8	178·0	49 0	27 8	223 2	253 2	30 0
12. Malda	890 9		890 9		84 8	55 0	75 3	675 8	816 9	141 1
13 West Dinajpur	886 7		886 7		148 0	58 0	33 1	647·6	740 6	93 0
14. Cooch Behar ..	846 5	23 1	823 4	15 5	87 0	104 9	66 7	549 3	637 3	88 0
Total West Bengal	19,868 5	23·1	19,845 4	1,712 1	3,369 4	1,781 6	1,320 8	11,655 5	13,292 9	1,637 4

TABLE No. 8·6

Classification of area in different districts of West Bengal for the year 1952-53(*)

(In thousand acres)

Districts.	Total geographical area: By professional survey (¹)	Total geographical area: Deduct the area under Pak bounded enclaves for which the returns for Agricultural Statistics are not available	Total geographical area: Net area by professional survey for which the returns for Agricultural Statistics are available	Classifications: Forests (²)	Classifications: Not available for cultivation	Classifications: Other uncultivated land excluding current fallow	Classifications: Current fallow	Classifications: Net area sown	Total cropped area	Area sown more than once
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. 24-Parganas ..	3,630·2	..	3,630·2	1,042·8	609.6	292·0	50·0	1,635·8	1,898 0	262 2
2 Nadia	965 8	..	965·8	..	116·2	113·5	150·0	586·1	876·8	290 7
3. Murshidabad	1,326·1		1,326·1	..	177·8	96·0	23·0	1,029·3	1 449·3	420 0
4. Burdwan ..	1,731·5	..	1,731·5	..	360.2	128·2	57·6	1,185 5	1,268·5	83 0
5. Birbhum	1,115·5		1,115·5	..	191·1	60·7	12·1	851·6	941 6	90 0
6. Bankura	1,694·0	..	1,694·0	..	341·0	246·1	180·6	926 3	986 3	60 0
7. Midnapore	3,362·0	.	3 362·0	..	686·0	240·0	165·7	2,270 3	2,415·6	145 3
8 Hooghly	773·4		773·4	..	139·5	29·9	2·0	602·0	671·7	69 7
9. Howrah	358·5		358·5	.	79·0	14·4	4·9	260 2	325·8	65 6
10. Jalpaiguri	1,519·6		1,519·6	361·8	228·7	224·0	30·9	665 2	698·7	33 5
11 Darjeeling	767 8		767·8	291·1	178·5	51 2	26 0	221 0	256·1	35 1
12. Malda	890·9		890·9		85·0	55 7	68 4	681 8	822 9	141 1
13 West Dinajpur	886 7		886 7		143 8	39 3	12 0	691 6	818 6	127 0
14 Cooch Behar	846 5	23 1	823 4	15 4	93 2	118 0	64 1	532 7	614 7	82 0
Total West Bengal	19,868 5	23 1	19,845 4	1,711 1	3 429 6	1 709 0	856 3	12,139 4	14,044 6	1 905 2

(¹)Revised on the basis of Director of Land Records and Survey, West Bengal, estimates of district areas as published in the Census Report of West Bengal, 1951

(²)Only the reserved forests and protected forests have been taken into account.

(*See tables A 37 and A 37(a) for figures of 1953-54 and 1954-55

TABLE No. 9·1

Average area under principal crops in different districts of West Bengal (for the years 1947-48 to 1952-53)

(Figures in '000 acres)

	Districts (1)	Aman rice (2)	Aus rice. (3)	Boro rice (4)	Total rice (5)	Wheat (6)	Barley (7)	Maize (8)	Other cereals (9)	Gram. (10)	Other pulses (11)	Rape and mustard (12)	Other oilseeds (13)	Sugar cane (14)	Jute (15)	Potato (16)	Tobacco. (17)
1	24 Parganas	1,253 7	86 5	0 3	1,340 5	0 3	0 2	0 8	0 3	18 2	147 4	7 4	6 1	5 8	69 2	5 3	1 5
2	Nadia	209 1	211 4	1 0	421 5	15 4	4 6	0 5	1 2	109 1	147 8	13 7	16 6	4 2	72 0	1 0	1 0
3	Murshidabad	455 0	222 1	4 0	681 1	40 6	28 0	0 9	7 6	125 1	224 7	18 6	36 0	10 1	112 8	5 0	0 6
4	Burdwan	1,009 0	50 2	2 3	1,061 5	4 8	1 5	0 6	0 1	17 2	40 8	4 0	1 9	10 0	17 5	15 8	0 2
5	Birbhum	684 3	81 2		765 5	9 7	0 4	1 9	0 4	19 2	36 6	1 3	2 3	6 9	0 6	7 1	0·1
6	Bankura	667 9	147 8	0 2	815 9	9 7	1 2	2 6	6 1	4 9	24 9	3 7	16 9	8 1	2 4	3 5	0·2
7	Midnapur	1,956 9	130 0	4 4	2 091 3	2 0	0 1	2 9	5 8	4 9	122 4	9 7	5 6	4 5	31 9	10 6	0 7
8	Hooghly	433 9	26 1	3 3	463 3	1 0	0 2	0 1	0 2	6 8	43 3	1 6	1 0	2 6	59 1	25 8	0 4
9	Howrah	216 2	2 6	1 9	220 7		0 1	(a)	0 4	0 9	27 7	0 5	1 0	1 6	12 9	2 7	0 1
10	Jalpaiguri	406 9	35 6		442 5	0 6	0 3	4 7		0 2	12 3	32 5	0 2	1 1	82 6	4 6	8 1
11	Darjeeling	62 6	1 7	0 6	64 9	1 7	0 4	68 7	18 7		1 0	3 6	0 2	0 3	3 0	3 6	0 3
12	Malda	272 0	124 6	19 7	416 3	11 6	31 3	16 5	3 2	27 1	156 0	26 1	4 7	4 1	49 4	2 0	2 2
13	West Dinajpur	507 7	62 3	0 6	570 6	2 5	5 2	0 7	0 3	8 0	38 6	45 8	0 5	1 6	38 1	3 5	1 2
14	Cooch Behar	287 6	87 4		375 0	5 8	0 5		1 0	0 4	21 7	85 6		0 2	55 6	2 7	28 6
	Total West Bengal	8,422 8	1,269 5	38 3	9,730 6	105 0	74 0	100 4	40 3	331 0	1,045 2	208 6	93 0	56 1	577 1	98 2	45 2

TABLE No. 9·1(a)

Average area under principal crops in different districts of West Bengal (for the years 1950-51 to 1954-55)

(Area in '000 acres)

	Districts (1)	Aman rice (2)	Aus rice (3)	Boro rice (4)	Total rice (5)	Wheat (6)	Barley (7)	Maize (8)	Other cereals (9)	Gram (10)	Other pulses (11)	Rape and mustard (12)	Other oilseeds (13)	Sugar cane (14)	Jute (15)	Potato. (16)	Tobacco (17)
1	24 Parganas ..	1,368 7	80 4	0 3	1 449 4	0 4	0 4	0 4	0 1	28 0	149 5	6 1	4 1	1 9	99 7	4 9	0 8
2	Nadia	211 5	218 2	1 0	430 7	15 2	6 3	0 6	1 1	195 3	189 0	13 0	19 9	6 3	86 8	1 3	0 9
3	Murshidabad	483 2	215 2	3 6	701 8	45 1	34 5	1 4	7 4	141 3	236 6	19 5	36 7	12 4	126 6	5 2	0 3
4	Burdwan	1,026 9	51 6	2 4	1,080 9	5 8	1 5	0 3	0 1	23 8	46 8	3 4	2 2	7 6	20 5	16 0	0 2
5	Birbhum	694 5	70 1	0 4	771 0	13 8	0 5	2 3	0 3	80 6	55 1	1 6	3 5	6 4	0 7	9 0	0 1
6	Bankura	700 5	133 4	0 2	834 1	12 2	0 8	3 2	5 0	6 8	27 1	3 4	16 0	3 8	2 5	3 6	0 2
7	Midnapore	1,939 8	122 5	6 4	2,068 8	2 0	0 3	2 9	5 1	7 0	139 2	9 8	6 0	3 8	86 9	10 8	0 5
8	Hooghly	426 8	25 1	3 6	455 5	1 0	0 2	0 1	0 3	8 3	60 2	2 3	1 2	2 1	70 6	28 5	0 4
9	Howrah	220 6	2 7	2 3	225 6			(a)	0 4	0 8	81 7	0 5	1 3	1 1	15 9	2 8	0 1
10	Jalpaiguri	397 0	40 7		438 6	1 3	1 2	7 1	(a)	0 2	12 0	30 4	0 1	0 3	41 8	3 7	6 0
11	Darjeeling	68 3	1 2		69 5	1 2	0 4	67 5	22 6		1 1	3 4	0 1	0 2	4 8	5 8	0 1
12	Malda	269 3	136 0	23 1	429 4	17 1	41 5	21 4	3 0	35 3	153 1	33 1	3 9	4 3	59 3	1 9	1 5
13	West Dinajpur	503 0	76 5	0 1	579 6	3 5	8 6	1 2	0 1	10 0	42 8	52 2	0 9	1 1	50 2	4 7	0 9
14	Cooch Behar	328 0	112 8		440 8	8 4	1 2		2 4	0 3	27 9	33 7	0 1	0 2	70 5	3 3	28 4
	Total West Bengal	8,630 0	1,293 3	43 4	9,975 7	127 0	97 4	108 4	47 9	427 7	1,122 1	212 4	96 0	51 0	686 3	101 0	40 4

(a)—Less than 50 acres

TABLE No. 9·2

Average production of principal crops in different districts of West Bengal (for the years 1947-48 to 1952-53)

(Figures in '000 tons)

	District	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Other oil seeds	Sugar-cane	Jute[1]	Potato	Tobacco
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24 Parganas	457 70	28 00	0 12	486 72	0 06	0 08	0 07	0 1	4 19	30 90	1 23	0 8	99 36	252 0	17 60	0 59
2	Nadia	64 92	68 52	0 44	133 88	4 54	1 46	0 14	0 3	33 87	32 52	2 45	2 6	75 39	166 0	3 70	0 33
3	Murshidabad	164 03	64 20	1 54	229 86	11 78	8 97	0 33	2 3	38 62	55 41	4 88	6 1	165 38	261 2	16 80	0 25
4	Burdwan	420 32	17 08	1 32	438 72	1 51	0 46	0 17	(a)	5 48	9 55	0 65	0 4	176 17	55 1	58 35	0 07
5	Birbhum	293 27	31 76	0 06	325 09	2 63	0 12	0 01	0 1	6 84	8 11	0 24	0 4	103 02	1 6	24 37	0 02
6	Bankura	293 54	45 10	0 09	338 82	2 82	0 3[illegible]	0 58	1 6	1 75	5 58	0 64	2 5	60 72	4 5	12 51	0 04
7	Midnapore	742 79	37 47	1 65	781 91	0 55	0 04	0 72	1 2	1 48	27 42	1 40	1 0	79 43	91 3	33 91	0 25
8	Hooghly	178 66	8 86	1 35	188 87	0 29	0 05	0 02	0 1	1 93	9 36	0 30	0 2	30 33	183 2	120 60	0 19
9	Howrah	87 61	0 92	0 76	89 29	0 01	0 02	0 01	0 1	0 26	6 03	0 08	0 2	30 39	40 2	11 42	0 03
10	Jalpaiguri	155 63	9 00		164 63	0 13	0 06	1 16		0 06	2 08	6 04	(a)	17 17	87 1	14 78	2 28
11	Darjeeling	28 93	0 52	0 22	29 67	0 50	0 11	22 00	3 2		0 24	0 77	(a)	4 51	7 5	8 84	0 11
12	Malda	96 27	37 41	7 46	141 14	3 76	9 95	5 20	0 6	7 38	35 57	5 44	0 0	63 86	133 2	5 91	0 76
13	West Dinajpur	163 67	18 10	0 18	182 04	0 53	1 23	0 21	(a)	2 02	8 24	7 41	0 1	27 00	91 4	11 12	0 39
14	Cooch Behar	101 66	19 90		121 56	1 70	0 17		0 3	0 15	4 61	5 87		2 43	158 4	10 58	7 70
	Total West Bengal	3 240 00	388 01	15 10	3 652 20	30 82	23 07	31 11	0 9	104 03	236 26	37 48	11 9	945 15	1,532 7	350 97	13 0

TABLE No. 9·2(a)

Average production of principal corps in different districts of West Bengal (for the years 1950-51 to 1954-55)

(Production in '000 tons)

	District	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Other oilseeds	Sugar-cane	Jute(1)	Potato	Tobacco
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24-Parganas	519 3	29 3	0 1	548 7	0 1	0 1	0 1	(a)	0 7	30 2	0 8	0 [illegible]	35 4	292 8	18 5	0 23
2	Nadia	68 0	70 7	0 4	139 1	4 6	1 7	0 2	0 4	51 6	20 0	2 3	2 8	112 0	183 1	4 5	0 25
3	Murshidabad	205 3	59 6	1 4	266 3	14 4	11 0	0 5	2 3	44 2	61 0	5 5	[illegible] 5	220 4	267 6	19 6	0 10
4	Burdwan	514 2	21 8	1 2	537 2	2 3	0 5	0 1	(a)	7 8	11 7	0 5	0 3	137 9	62 7	65 2	0 06
5	Birbhum	349 6	37 5	0 1	387 2	4 4	0 2	0 7	0 1	10 8	11 1	0 9	0 5	114 6	2 0	30 5	0 02
6	Bankura	333 7	43 2	0 1	377 0	3 8	0 2	0 7	1 4	2 1	5 8	0 6	2 7	67 6	6 0	13 7	0 05
7	Midnapore	788 0	34 0	2 3	825 2	0 6	0 1	0 6	1 0	2 1	30 5	1 3	1 1	66 1	110 0	33 3	0 16
8	Hooghly	198 6	10 0	1 6	210 2	0 3	(a)	(a)	0 1	2 4	12 7	0 4	0 2	36 7	237 7	149 5	0 14
9	Howrah	93 9	1 1	1 0	96 0			(a)	0 1	0 2	5 5	0 1	0 2	18 1	47 6	12 8	0 02
10	Jalpaiguri	149 5	11 0		160 5	0 3	0 3	1 8		0 1	2 5	5 2	(a)	5 6	124 6	11 1	1 46
11	Darjeeling	33 1	0 2		33 3	0 3	0 1	19 2	5 0		0 2	0 6	(a)	3 2	14 3	12 3	0 03
12	Malda	95 9	43 4	8 4	147 7	5 8	13 5	7 0	0 5	10 1	35 5	6 6	0 4	70 3	153 0	5 6	0 37
13	West Dinajpur	172 4	24 0	0 1	196 5	0 8	2 2	0 4	(a)	2 2	8 9	7 7	0 1	20 8	116 1	15 0	0 27
14	Cooch Behar	112 2	26 8		139 0	2 5	0 4		0 7	0 1	5 9	5 5	(a)	2 6	217 2	11 6	8 09
	Total West Bengal	3,633 7	413 5	16 7	4,063 0	40 2	30 3	31 3	11 6	143 4	250 5	37 4	14 3	911 3	1,836 7	408 2	11 25

(1) Jute figures are expressed in terms of '000 bales of 400 lb each

(a) = Less than 50 tons

TABLE No. 9·3

Average yield rates (in maunds per acre) of principal crops in different districts of West Bengal (for the years 1947-48 to 1952-53)

	Districts	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Other oilseeds	Sugar-cane	Jute(1)	Potato	Tobacco.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24-Parganas	9 94	9 09	10 89	9 88	5 44	7 27	6 37	5 00	8 62	5 72	4 52	3 52	466 28	2 83	91 92	10 85
2	Nadia	8 43	8 82	12 0	8 71	8 03	8 63	7 16	7 33	8 95	5 99	4 87	4 20	488 60	2 31	98 19	8 95
3	Murshidabad	9 80	7 89	10 48	9 17	7 89	8 71	9 69	8 36	8 41	6 71	7 16	4 63	445 59	2 32	92 87	11 83
4	Burdwan	11 33	9 25	15 62	11 25	8 44	8 33	7 47	8 00	8 67	6 37	4 49	5 26	479 62	3 15	100 68	8 88
5	Birbhum	11 70	10 65		11 57	7 35	8 17	8 81	6 00	9 71	6 03	4 90	4 43	406 39	2 67	93 89	7 78
6	Bankura	11 98	8 32	12 25	11 30	7 89	7 92	6 16	7 18	9 76	6 04	4 71	4 09	533 24	1 88	96 36	7 92
7	Midnapore	10 34	7 84	10 21	10 18	7 49		6 83	5 81	8 16	6 10	3 95	4 93	480 43	2 86	87 22	10 19
8.	Hooghly	11 16	9 24	11 13	11 11	7 89		6 17	7 50	8 33	5 88	5 10	4 60	411 84	3 10	127 49	11 22
9	Howrah	11 02	9 64	10 89	11 01			7 00	5 25	7 65	5 02	4 85	4 20	516 91	3 12	113 77	10 27
10	Jalpaiguri	10 34	6 88		10 13	5 91	8 17	6 80		9 10	5 93	5 06	4 00	424 90	2 67	87 46	7 62
11	Darjeeling	12 52	8 33	9 08	12 44	8 00	7 48	8 71	6 44		6 53	5 85	4 50	409 12	2 50	65 94	10 14
12	Malda	9 64	8 11	10 31	9 23	8 66	8 63	8 74	5 44	7 40	6 21	5 06	3 64	423 78	2 70	81 19	9 58
13	West Dinajpur	8 77	7 95	8 17	8 68	5 77	6 42	8 05	4 33	6 87	5 81	4 46	5 00	476 08	2 40	87 33	8 69
14	Cooch Behar	9 61	6 20		8 82	7 84	9 25		8 00	9 15	5 78	4 49		390 72	2 85	105 37	7 32
	Total West Bengal	10 48	8 32	10 80	10 23	7 89	8 48	8 49	6 77	8 55	6 15	5 01	4 35	458 66	2 66	102 53	7 81

TABLE No. 9·3(a)

Average yield rates (in maunds per acre) of principal crops in different districts of West Bengal (for the years 1950-51 to 1954-55)

	Districts	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Other oilseeds	Sugar-cane	Jute(1)	Patato	Tobacco
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24 Parganas	10 59	9 91	9 33	10 33	6 00	7 75	6 59	7 60	9 47	5 51	3 77	3 41	506 63	2 94	102 80	7 96
2	Nadia	8 75	8 82	11 00	8 70	8 24	7 49	7 07	9 00	10 38	5 69	4 75	3 80	484 05	2 12	94 00	7 41
3	Murshidabad	11 56	7 55	10 67	10 33	8 72	8 67	10 07	8 46	8 51	7 02	7 62	4 05	488 92	2 11	102 60	9 25
4	Burdwan	13 63	11 49	13 71	13 53	10 69	8 93	7 33	7 40	8 90	6 82	4 09	4 32	493 74	3 06	110 99	8 71
5	Birbhum	13 70	13 42	6 75	13 67	8 61	9 00	8 22	9 06	8 06	5 50	4 56	3 71	487 27	2 86	92 22	4 90
6	Bankura	12 97	8 82	11 50	12 31	8 47	8 25	5 53	7 62	8 50	5 79	4 65	4 55	557 78	2 40	103 50	6 80
7	Midnapore	11 06	7 83	9 89	10 86	7 75	9 33	5 55	5 34	8 36	5 96	3 59	5 02	473 42	2 98	83 98	8 93
8	Hooghly	12 67	10 84	12 19	12 56	7 20	6 50	7 00	7 07	7 84	5 73	4 61	4 75	476 00	3 37	142 74	9 66
9	Howrah	11 58	10 03	12 00	11 58				6 80	8 12	4 76	5 00	5 00	448 78	2 99	124 00	6 58
10	Jalpaiguri	10 23	7 34		9 96	5 77	6 08	6 73		10 00	5 61	4 69	6 00	511 33	3 02	81 97	6 61
11	Darjeeling	13 21	5 25		13 07	6 33	6 75	7 73	5 00		5 91	4 82	3 00	431 50	2 98	63 15	8 71
12	Malda	9 69	8 64	9 91	9 37	9 26	8 88	8 92	4 50	7 80	6 31	5 39	3 13	445 33	2 58	52 62	6 79
13	West Dinajpur	9 32	8 53	6 00	9 22	5 88	6 85	9 58	8 00	5 97	5 64	4 01	3 44	515 18	2 31	86 72	8 11
14	Cooch Behar	9 31	6 46		8 58	8 25	8 02		7 94	9 00	5 73	4 45	4 00	359 00	3 08	95 27	7 76
	Total West Bengal	11 45	8 70	10 47	11 09	8 59	8 48	7 84	6 60	9 14	6 08	4 78	4 09	486 46	2 68	108 77	7 56

(1) Jute figures are in terms of bales of 400lbs. each

TABLE No. 9·4

Utilisation of average total cropped area by different districts of West Bengal (*)

	Districts	Autumn rice. (Per cent)	Winter rice (Per cent)	Summer rice (Per cent)	Total rice (Per cent)	Wheat (Per cent)	Barley (Per cent)	Gram (Per cent)	Other pluses (Per cent)	Potato (Per cent)	Sugar-cane (Per cent)	Tobacco (Per cent)	Mustard (Per cent)	Lin-seed (Per cent)	Jute (Per cent)	Other crops (Per cent)
1	24 Parganas	5 09	78 28	0 02	78 39	0 02	0 02	0 90	8 67	0 37	0 34	0 09	0 44	0 00	5 25	5 51
2	Nadia	24 18	28 87	0 11	48 11	1 76	0 53	11 77	16 82	0 19	0 48	0 11	1 56	1 76	8 22	8 69
3	Murshidabad	16 31	33 48	0 29	50 03	2 98	2 06	9 18	16 75	0 35	0 74	0 04	1 86	2 05	8 28	6 18
4	Burdwan	4 13	82 99	0 19	87 31	0 39	0 12	1 41	3 36	1 45	0 82	0 02	0 82	0 04	1 44	3 32
5	Birbhum	9 40	79 22		88 62	1 12	0 05	2 22	4 23	0 97	0 80		0 15	0 14	0 70	1 63
6	Bankura	15 97	72 16	0 02	88 15	1 05	0 13	0 53	2 70	0 25	0 33	0 01	0 40	0 18	0 26	6 01
7	Midnapore	5 46	82 15	0 18	87 79	0 08		0 21	5 14	0 45	0 19	0 08	0 41	0 03	1 34	4 33
8	Hooghly	4 10	68 12	0 52	72 74	0 16		1 07	6 80	5 01	0 41	0 06	0 25	0 00	9 28	4 22
9	Howrah	0 91	75 89	0 67	77 47			0 32	9 72	1 37	0 56	0 04	0 02	0 13	4 53	5 84
10	Jalpaiguri	5 17	58 96		64 13	0 09	0 03	0 03	1 80	0 51	0 16	1 17	4 71	0 00	4 72	22 65
11	Darjeeling	0 69	24 60	0 24	25 53	0 69	0 16		0 40	2 06	0 12	0 12	1 45		1 21	68 26
12	Malda	14 98	32 60	2 36	49 80	1 41	3 75	5 25	18 70	0 22	0 49	0 26	3 13	0 45	5 92	12 54
13	West Dinajpur	8 44	68 80	0 08	77 32	0 34	0 70	1 08	5 23	0 42	0 22	0 16	6 14	0 00	5 16	3 23
14	Cooch Behar	16 35	53 83		70 18	1 10	0 00	0 07	4 06	0 45	0 04	5 31	6 66		10 40	1 64
	Total West Bengal	9 55	63 27	0 29	73 11	0 80	0 55	2 49	7 88	0 78	0 42	0 34	1 53	0 40	4 34	7 36

TABLE No. 9·5

Average yield per acre of some principal crops in India in relation to other countries (†)

	Country	Yield rate (mds /acre)
	I WHEAT	
1	Denmark	30 67
2	Belgium	35 26
3	United Kingdom	28 46
4	New Zealand	28 08
5	Egypt	20 76
6	Japan	20 03
7.	Canada	11 49
8.	U S A.	11 00
9.	Pakistan	9 89
10	India	7 13
	II. RICE (PADDY)	
1	Spain	56 53
2	Itally	53 23
3	Australia	51 79
4	Japan	42 04
5	Portugal	40 46
6	Egypt	39 81
7	Uruguay	35 29
8	Argentina	33 53
9	Greece	29 68
10	U S A	27 75
11	Mexico	19 78
12	Burma	15 12
13	Pakistan	15 10
14	India	12 47

	Country	Yield rate (mds /acre).
	III POTATO	
1	Netherlands	258 02
2	Belgium	241 48
3	Ireland	220 89
4	U K.	198 66
5	Norway	196 76
6	Denmark	190 00
7.	Switzerland	185 11
8.	Egypt	163 70
9.	U. S. A.	150 69
10	Japan	128 47
11	Canada	121 69
12.	India	81 85
	IV. MAIZE	
1	U S A	25 51
2	Egypt	22 30
3	Itally	19 88
4	China	14 20
5	Brazil	14 17
6	Argentina	13 88
7	Pakistan	11 13
8	Mexico	7 95
9	India	6 47

TABLE No. 9·6

Production of some principal crops in the Part 'A' States as percentage to total production in India (‡)

	Rice	Jowar	Maize	Wheat	Barley	Total pulses (including gram)	Total oilseeds	Cotton.	Jute.	Tobacco	Potato	Sugar-cane
Assam	6 8		(a)	(a)		(a)	1 0	(a)	22 1	2·5	7 6	1 2
Bihar	13 7		13 8	4 3	5 7	11 6	1 5	(a)	18 7	5 0	16 2	4 4
Bombay	4·5	20 6	5 6	4 0	(a)	5 1	11 6	24 7		22 4	4 9	10 4
Madhya Pradesh	11 0	17 5	2 8	8 1	(a)	12 4	5 4	19 2		0 8	1 6	0 8
Madras	11 2	7 2	(a)	(a)		1 0	14 8	7 2		9 1	2 9	5 4
Andhra	9 1	8 8	(a)	(a)		1 4	15 2	2 3	.	39 8		6 0
Orissa	9 2	(a)	(a)	(a)		2 5	1 3	(a)	6 2	1 2	1 0	1 9
Punjab	0 9	0 8	14 0	18 0	5 9	9 5	2 0	9 2		0 8	3 9	7 7
U P	8 1	8 8	27 2	39 2	61 5	31 0	17 6	1 5	2 3	6 6	35 8	51 0
West Bengal	17 2	(a)	1 2	0 5	1 2	4 3	0 9	(a)	49 4	5 0	22 5	1 8

(*) Acreage under different crops have been expressed as percentages of the corresponding total cropped area

(†) Source Year book of Food and Agricultural Statistics, 1952, Vol VI, Part I (FAO Publications).

(‡) Figures relate to the period 1951-52 to 1954-55.

(a)—less than 0·5%

TABLE No. 9·7

Percentage share of acreage contributed by the different districts with reference to the major crops grown in West Bengal (for the years 1947-48 to 1952-53)

District	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and Mustard	Other oilseeds	Sugar-cane	Jute	Potato	Tobacco
	Per cent	Per cent	Per cent.	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent.	Per cent	Per cent	Per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1 24-Parganas	14 89	6 81	0 78	13 78	0 28	0 27	0 30	0 74	3 99	14 11	3 65	6 55	10 84	15 46	5 69	3 36
2 Nadia	2 48	16 66	2 61	4·33	14 54	6 21	0 50	2 97	31 15	14 14	6 71	17 85	7 49	12 48	1 07	2 24
3 Murshidabad	5 40	17 50	10 44	7 00	38 34	37 84	0 90	18 86	37 70	21 50	9 13	38 71	18 00	19 55	5 36	1 34
4 Burdwan	11 98	3 95	6 01	10 91	4 53	2 03	0 60	0 25	5 20	3 90	1 94	2 04	17 83	3 03	16 05	0 45
5 Birbhum	8 12	6 40		7 87	0 16	0 54	1 89	0 09	5 80	3 49	0 66	2 47	12 30	0 10	7 62	
6 Bankura	7 98	11 64	0 52	8 38	9 16	1 62	2 59	15·14	1 48	2 38	1 82	18 17	5 58	0 42	4 70	0 22
7 Midnapore	23 28	10 24	11 49	21 49	1 80	0 14	2 89	14 30	1 49	11 71	4 75	6 02	8 02	5 53	11 37	1 57
8 Hooghly	5 15	2 06	8 61	4 76	0 94	0 27	0 10	0 50	2 05	4 15	0 79	1 08	4 63	10 24	27 68	0 89
9 Howrah	2 57	0 20	4 96	2 27		0 14		0 00	0 27	2 65	0 22	1 08	2 85	2 23	2 00	0 22
10 Jalpaiguri ..	4 83	2 80		4 55	0 57	0 40	4 68		0 00	1 18	15 97	0 22	1 96	5 65	4 04	18 12
11 Darjeeling	0 74	0 13	1 57	0 67	1 61	0 54	68 42	84 00		0 10	1 76	0 22	0 58	0 52	1 86	0 67
12 Malda	3 23	9 82	51 44	4 28	11 14	42 30	16 43	7 94	8 10	14 92	12 84	5 05	7 31	8 56	2 14	4 70
13 West Dinajpur	6 03	4 91	1 57	5 86	2 36	7 02	0 70	0 74	2 42	3 69	22 27	0 54	2 85	6 60	1 76	2 68
14 Cooch Behar	3 42	6 88		3 85	5 48	0 68		2 40	0 12	2 08	17 40		0 36	0 63	2 90	63 54
Total West Bengal	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00

TABLE No. 9·7(a)

Percentage share of acreage contributed by the different districts with reference to the major crops grown in West Bengal (for the years 1950-51 to 1954-55)

Districts	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Other oilseeds	Sugar-cane	Jute	Potato	Tobacco
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1 24-Parganas	15 84	6 22	0 69	14 53	0 31	0 41	0 37	0 21	6 55	13 32	2 87	4 27	3 73	14 53	4 85	1 98
2 Nadia	2 45	16 87	2 30	4 32	11 97	6 47	0 55	2 30	31 63	12 30	6 12	20 73	12 35	12 57	1 20	2 23
3 Murshidabad	5 59	16 62	8 28	7 04	35 52	35 42	1 29	15 45	33 04	21 09	0 18	38 24	24 31	18 45	5 15	0 74
4 Burdwan	11 89	3 99	5 52	10 83	4 57	1 54	0 28	0 21	5 50	4 17	1 60	2 29	14 90	2 99	15 91	0 50
5 Birbhum	8 04	5 89	0 92	7 78	10 87	0 51	2 12	0 63	7 15	4 91	0 75	3 65	12 55	0 10	8 91	0 25
6. Bankura	8 11	10 92	0 46	8 36	9 61	0 82	2 95	10 44	1 59	2 42	1 60	16 67	6 47	0 36	3 56	0 50
7 Midnapore	22 45	9 47	14 70	20 73	1 57	0 31	2 68	10 65	1 04	12 40	4 61	6 25	7 45	5 38	10 00	1 24
8 Hooghly	4 04	1 94	8 28	4 57	0 70	0 21	0 09	0 63	1 04	5 36	1 08	1 25	4 12	10 20	28 23	0 99
9 Howrah	2 55	0 21	5 29	2 26				0 83	0 10	2 83	0 24	1 85	2 16	2 32	2 77	0 25
10 Jalpaiguri	4 61	3 15		4 40	1 02	1 23	6 55		0 05	1 07	14 31	0 10	0 59	6 00	3 06	14 85
11 Darjeeling	0 79	0 09		0 70	0 94	0 41	62 27	47 18		0 10	1 60	0 10	0 30	0 70	5 25	0 25
12 Malda	3 12	10 59	53 33	4 30	13 46	42 61	10 74	6 26	8 25	13 64	15 58	4 06	8 43	8 64	1 88	3 71
13 West Dinajpur	5 82	5 92	0 23	5 81	2 76	8 33	1 11	0 21	2 34	3 81	24 58	0 94	2 16	7 31	4 65	2 23
14 Cooch Behar	3 80	8 72		4 42	6 61	1 23		5 00	0 07	2 40	15 88	0 10	0 30	10 27	3 27	70 28
Total West Bengal	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 0	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00

TABLE No. 9·8

Percentage share of production contributed by the different districts with reference to major crops grown in West Bengal (for the years 1947-48 to 1952-53)

	Districts	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize	Other cereals	Gram	Other pulses	Rape and mustard	Othe Oilseeds	Sugar-cane	Jute	Pota to	Tobac-co
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24-Parganas	14 00	7 45	0 79	13 33	0 20	0 33	0 24	1 01	4 03	13 12	3 29	5 37	10 51	16 45	5 10	4 58
2	Nadia	2 00	17 66	2 88	3 67	14 73	6 34	0 45	3 03	32 56	18 77	6 55	17 45	7 98	10 83	1 08	2 54
3	Murshidabad	5 05	16 57	10 10	6 29	38 22	38 90	1 04	23 23	37 12	23 45	13 03	40 95	17 50	17 06	4 81	1 92
4	Burdwan	12 04	4 40	8 60	12 01	4 90	2 00	0 55		5 27	4 04	1 75	2 69	18 64	3 59	16 63	0 54
5	Birbhum	0 02	8 18	0 38	8 90	8 53	0 53	1 96	1 01	6 58	3 48	0 64	2 68	10 90	0 10	6 94	0 15
6	Bankura	0 03	11 65	0 56	0 28	9 16	1 53	1 84	16 16	1 68	2 34	1 71	16 78	6 42	0 20	3 56	0 31
7	Midnapore	22 86	9 66	10 88	21 42	1 79	0 16	2 31	12 12	1 42	11 61	3 74	6 71	8 40	5 96	0 66	1 92
8	Hooghly	5 50	2 28	8 80	5 17	0 94	0 22	0 07	1 01	1 86	3 96	0 80	1 34	4 16	11 95	34 37	1 46
9	Howrah	2 70	0 24	5 02	2 44	0 03	0 00	0 03	1 01	0 25	2 55	0 22	1 34	3 21	2 62	3 20	0 23
10	Jalpaiguri	4 70	2 32		4 51	0 42	0 28	3 72		0 06	1 13	16 16		1 82	5 68	4 21	17 53
11	Darjeeling	0 89	0 13	1 45	0 81	1 63	0 47	70 21	32 32		0 10	2 05		0 48	0 40	2 52	0 84
12	Malda	2 96	9 64	49 18	3 86	12 21	43 12	16 02	6 06	7 08	15 06	14 55	4 03	6 70	8 60	1 68	5 84
13	West Dinajpur	5 04	4 69	1 18	4 98	1 72	5 31	0 66		1 05	3 49	10 81	0 67	2 96	5 06	3 17	3 00
14	Cooch Behar	3 13	5·13		3 33	5 52	0 72		3 03	0 14	1 95	15 70		0 26	10 33	3 01	50 10
	Total West Bengal	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00

TABLE No. 9·8(a)

Percentage share of production contributed by the different districts with reference to the major crops grown in West Bengal (for the period 1950-51 to 1954-55)

	Districts	Aman rice	Aus rice	Boro rice	Total rice	Wheat	Barley	Maize.	Other cereals	Gram	Other pulses	Rape and musta d	Other oilseeds	Sugar-cane	Jute	Pota-to	To-bacco
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	24-Parganas	14 29	7 00	0 60	13 50	0 25	0 33	0 32	0 25	6 76	12 06	2 14	3 50	1 88	15 04	4 59	2 08
2	Nadia	1 87	17 10	2 39	3 42	11 44	5 61	0 64	3 14	35 97	11 58	6 15	19 58	12 29	0 07	1 12	2 17
3	Murshidabad	5 65	14 40	8 38	6 55	35 82	30 30	1 60	20 12	30 82	24 35	14 71	38 46	24 10	14 57	4 86	0 01
4	Burdwan	14 16	5 27	7 18	13 22	5 72	1 65	0 31	0 22	5 44	4 67	1 34	2 10	15 13	3 41	16 18	0 57
5	Birbhum	9 62	9 07	0 60	9 53	10 94	0 66	2 24	0 57	7 54	4 43	0 80	3 50	12 58	0 11	7 56	0 10
6	Bankura	0 18	10 45	0 60	9 28	0 45	0 66	2 24	11 77	1 46	2 32	1 60	18 87	7 42	0 33	3 40	0 44
7	Midnapore	21 60	8 44	13 77	20 31	1 49	0 33	1 92	8 25	1 46	12 18	3 48	7 69	7 25	5 00	8 26	1 46
8	Hooghly	5 47	2 42	9 58	5 17	0 75			0 70	1 67	5 07	1 07	1 40	4 03	12 94	37 06	1 26
9	Howrah	2 58	0 27	6 00	2 36				0 57	0 10	2 19	0 27	1 40	1 99	2 50	3 18	0 21
10	Jalpaiguri	4 11	2 06		3 95	0 75	0 99	5 75		0 10	1 00	13 90		0 61	6 89	2 75	12 92
11	Darjeeling	0 91	0 05		0 82	0 75	0 33	61 34	43 37		0 08	1 60		0 35	0 78	3 05	0 28
12	Malda	2 64	10 50	50 30	3 68	14 43	44 56	22 36	4 73	7 05	14 17	17 65	2 80	7 71	8 38	1 30	3 32
13	West Dinajpur	4 74	5 80	0 60	4 84	1 00	7 26	1 28	0 19	1 53	3 55	20 59	0 70	2 28	6 32	3 72	2 38
14	Cooch Behar	3 09	6 48		3 42	6 22	1 32		6 12	0 10	2 35	14 70		0 29	11 83	2 88	71 84
	Total West Bengal	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00

TABLE No. 9-9

Acreage under different crops grown in West Bengal (1947-48 to 1954-55)

(See Table No A 38)

(Area in '000 acres)

Crops	1947 48	1948-49	1949-50	1950 51	1951 52	1952 53	1953-54	1954 55
Rice—								
Autumn (1)	1,364 1	1,316 0	1,286 3	1,124 3	1,168 5	1,356 8	1,569 9	1,246 8
Winter (1)	8,270 2	8,106 9	8,442 9	8,637 2	8,278 2	8 801 6	8,933 9	8,544 2
Summer (1) . ..	25 3	35 1	38 4	41 1	41 4	48 5	44 4	41 7
Total (1)	9,659 6	9,458 9	9,767 6	9,802 6	9,488 1	10,206 9	10,548 2	9,832 7
Cereals (other than rice)—								
Wheat (1)	90 7	94 6	88 7	124 6	130 4	106 4	133 1	141 0
Barley	58 0	57 2	71 9	74 6	109 4	72 9	123 7	106 7
Jowar	2 5	1 7	4 6	9 5	7 6	6 7	3 0	3 9
Bajra	1 4	1 6	1 4	1 2	0 5	0 6	0 4	0 4
Maize	87 3	88 4	116 5	94 2	103 0	113 4	115 1	117 2
Ragi	6 1	6 2	5 7	18 9	23 5	23 6	23 8	23 9
Other cereals ..	22 5	22 5	22 5	21 0	17 2	13 1	20 4	19 7
Total ..	268 5	272 2	311 3	344 0	391 5	336 7	420 4	412 8
Total cereals	9 928 1	9,731 1	10,078 9	10,146 6	9,879 6	10,543 6	10,968 6	10 245 5
Pulses—								
Gram (1)	243 4	255 4	273 9	316 0	487 7	410 0	486 2	438 3
Tur (Arhar) .	143 3	40 9	36 7	30 4	41 1	60 4	44 0	57 1
Kharif pulses .	20 5	25 6	22 4	21 3	24 6	25 8	28 1	34 9
Rabi pulses (other than gram and tur)	878 5	1 001 5	1,012 8	941 1	892 1	1,043 2	1,132 8	1 223 9
Total ..	1,285 7	1,323 4	1 345 8	1,308 8	1,445 5	1,548 4	1,691 1	1 754 2
Oilseeds —								
Til	21 9	25 2	18 4	16 8	14 2	13 1	11 4	11 0
Mustard (1)	181 3	172 8	201 5	221 1	217 8	226 2	190 9	205 1
Linseed	41 6	44 2	60 7	65 8	44 9	63 9	70 4	80 2
Other oilseeds .. .	22 4	23 0	19 6	22 1	21 1	20 6	18 3	15 3
Total ..	267 2	265 2	300 2	325 8	298 0	323 8	291 0	311 6
Fibres—								
Jute (1)	266 4	349 9	498 0	650 9	876 1	810 8	534 7	550 6
Mesta	N A	N A	N A	N A	19 7	16 5	12 3	130 7
Sunnhemp	N A	N A	16 1	14 6	14 2	14 6	15 2	14 7
Cotton .	0 4	0 2	0 2	0 4	3 4	1 8	1 3	0 3
Other crops—								
Sugarcane	63 3	65 0	57 5	52 6	46 3	52 3	46 9	56 8
Potato . .	76 3	85 6	101 2	91 6	104 0	100 4	103 8	105 0
Tobacco	52 1	48 3	47 3	44 0	38 9	40 2	38 9	39 6
Ginger (Dry) ..	N A	N A	N A	1 0	1 0	1 2	1 2	1 2
Chillies (Dry) .	N A	N A	N A	14 5	15 5	16 2	16 3	15 6

N A = Not available

(1) See table B 9 for estimates of the years 1937 38 to 1946 47

TABLE No. 9-10

Production of different crops grown in West Bengal (1947-48 to 1954-55)

(See Table No A-39)

(In 000 tons)

Crops.	1947-48	1948-49	1949-50.	1950-51	1951 52	1952-53	1953 54	1954 55
Rice—								
Autum*	374 1	415 3	395 9	335 9	359 7	447 1	526·7	398 1
Winter*	3,121 7	2,955 7	3,269 5	3 559 1	3,103 3	3,484 7	4,679 8	3,341 6
Summer*	9 4	10 3	16 1	15 5	15 5	18 3	18 4	15 9
Total*	3,505 2	3,387 3	3,681 5	3,910 5	3 478 5	3,950 1	5,224 0	3,755 6
Cereals (other than rice)—								
Wheat* .. .	21 4	25 4	20 8	41 3	40 7	35 3	38 4	44 9
Barley .. .	15 6	19 5	18 3	24 0	35 9	24 5	34 6	32 0
Jowar .. .	0 0	0 5	1 6	3 4	2 7	2 4	1 2	1 1
Bajra ..	0 4	0 4	0 5	0 5	0 2	0 2	0 2	0 1
Maize ..	30 4	29 7	41 9	24 4	27 1	31 6	30 7	33 3
Ragi .. .	1 7	1 7	1 7	4 2	5 2	5 2	5 4	5 2
Other cereals .	5 1	5 1	5 1	4 4	3 7	3 6	5 0	3 9
Total ..	75 2	82 3	89 9	102 8	115 5	105 8	121 5	120 5
Total cereals	3,580 4	3,469 6	3,771 4	4 013 3	3,594 0	4,055 9	5,340 4	3,876 1
Pulses—								
Gram* ..	55 5	78 3	76 5	110 4	164 4	139 0	151 6	152 3
Tur (Arhar)	30 4	11 7	10 1	11 0	12 8	16 9	11 0	15 4
Kharif pulses	4 0	4 8	5 9	5 5	6 6	6 9	7 0	8 5
Rabi pulses (other than gram and tur)	194 7	253 5	193 7	213 7	201 1	227 9	213 9	262 3
Total .	290 0	348 3	286 2	340 6	385 2	390 7	415 5	438 5
Oil seeds—								
Til .	4 0	4 7	3 4	3 4	2 0	2 7	2 2	2 1
Mustard*	31 4	33 9	35 5	41 3	38 9	43 0	28 0	34 4
Linseed	6 9	8 5	7 8	10 9	7 6	9 6	7 5	8 3
Other oilseeds . ..	2 6	2 9	2 3	2 7	3 0	3 1	3 6	2 4
Total ..	44 9	50 0	49 0	58 3	52 4	59 3	41 3	47 2
Fibres—								
Jute (1)* .. .	648 7	906 3	1,452 5	1,406 0	2,330 4	2,363 1	1,498 4	1,406 4
Mesta (1)	N A	N A	N A	N A	58 2	49 5	35 5	428 3
Sunnhemp (1)	N A	N A	26 1	24 0	26 4	27 5	24 9	21 3
Cotton (2)	0 3	0 1	0 1	0 1	0 8	0 5	0 3	0 1
Other crops—								
Sugarcane	1,005 6	1,059 4	891 9	855 9	819 8	1,038 3	650 2	1,193 1
Potato	267 0	260 1	~~456 2~~ 350·5	365 1	442 0	421 1	413 5	374 1
Tobacco	16 4	15 0	12 8	11 2	9 7	12 8	10 8	11 8
Ginger (Dry)	N A	N A	N A	0 5	0 6	0 6	0 6	0 5
ios (Dry) . ..	N A	N.A	N A	10 5	9 6	9 0	8 4	7 6

(1) in '000 bales of 400 lb each
(2) In '000 bales of 392 lb each
N A = Not available
*See table B 9(a) for estimates of the years 1937 38 to 1946-47.

TABLE No. 9·11(i) (1)

Acreage and yield of Aus rice in West Bengal from 1947-48 to 1952-53

	Districts	Area in thousand acres						Production in thousand maunds (cleaned					
		1947 48.	1948-49	1949 50	1950 51	1951 52.	1952-53.	1947-48	1948-49	1949 50	1950-51	1951-52	1952-53
1	24 Parganas	154 9	91 6	83 9	50 3	52 3	86 2	1,190 0	900 0	815 0	898 0	595 2	821 5
2.	Nadia	252 0	225 4	228 5	180 9	174 8	206 9	2,163 0	2,358 0	2,091 0	943 0	1,608 2	2,027 6
3	Murshidabad	287 3	212 6	215 8	221 5	171 1	224 4	2,025 0	1,796 0	1,859 0	1 506 0	1,401 3	1 911 9
4	Burdwan	53 0	60 5	54 9	25 6	47 4	59 5	273 0	564 0	559 0	321 0	385 4	687 2
5	Birbhum	69 5	94 8	114 0	66 8	67 3	74 5	469 0	818 0	1 109 0	965 0	726 2	1,009 6
6	Bankura	60 9	184 7	171 1	168 0	156 4	145 9	385 0	1,655 0	1,107 0	1,858 0	1,160 5	1 215 3
7	Midnapore	115 7	162 2	110 2	120 7	142 7	128 4	852 0	1,257 0	790 0	1,005 0	1,167 3	1,047 7
8	Hooghly	39 1	28 8	24 6	20 0	25 6	18 6	291 0	251 0	251 0	221 0	285 8	196 6
9	Howrah	4 3	2 3	2 2	2 7	1 6	2 3	29 0	17 0	28 0	32 0	15 8	28 8
10	Jalpaiguri	48 9	25 8	28 8	30 6	35 4	44 4	351 0	146 0	165 0	154 0	280 6	363 0
11	Darjeeling	4 7	1 6	1 2	0 8	0 4	1 7	51 0	12 0	9 0	4 0	2 7	6 9
12	Malda	130 1	98 7	129 0	126 0	120 0	137 0	1 074 0	733 0	983 0	1,069 0	995 0	1 315 2
13	West Dinajpur	55 0	51 5	52 6	47 2	71 8	95 7	520 0	874 0	464 0	410 0	585 9	617 3
14	Cooch Behar	82 7	76 4	69 5	63 2	101 1	131 3	511 1	422 3	547 0	257 0	682 4	829 8
	Total West Bengal	1 364 1	1 316 9	1,286 3	1,124 3	1,168 5	1 356 8	10 184 1	11,303 3	10,777 0	9,148 0	9,792 2	12,169 0

TABLE No. 9·11(ii) (2)

Acreage and yield of Aman rice in West Bengal from 1947-48 to 1952-53

	Districts	Area in thousand acres						Production in thousand maunds (cleaned rice)					
		1947-48	1948 49	1949 50	1950-51	1951-52	1952-53	1947 48	1948 49	1949 50	1950 51	1951 52	1952 53
1	24-Parganas	1 133 4	1 174 8	1,219 2	1,249 4	1 351 4	1,400 0	12,741 0	12,082 0	13,782 0	13,346 0	11,027 0	11 774 0
2	Nadia	222 2	186 2	231 0	240 4	168 9	107 1	2 108 0	1,588 0	2,523 0	1,929 0	1 002 0	1 458 5
3	Murshidabad	410 2	410 1	444 [illegible]	449 8	470 3	486 7	3 940 0	4,498 0	3 811 0	5 439 0	4 035 0	5,066 5
4	Burdwan	1 012 3	979 1	1 031 6	1 036 4	946 5	1 047 8	10 890 0	9 940 0	10 863 0	13 605 0	11,027 0	12 322 1
5	Birbhum	683 0	682 4	677 5	607 0	641 6	720 7	6,836 0	7 384 0	6,044 0	9 216 0	7,967 0	9 549 3
6	Bankura	661 4	660 5	646 2	688 6	610 2	716 7	7 400 0	7 945 0	6 914 0	8 027 0	8,762 0	8,884 6
7	Midnapore	1 898 [illegible]	1 906 7	2,073 0	2 029 0	1 809 3	1 981 7	19 209 0	17 170 0	10 834 0	22,648 0	21 424 0	21,027 2
8	Hooghly	451 0	429 2	444 5	447 0	304 0	435 3	4 960 0	3 979 0	5,685 0	5 544 0	3,522 0	5 489 1
9	Howrah	215 2	197 1	211 2	210 7	220 8	240 0	2,257 0	2 034 0	2 309 0	2,536 0	2 201 0	2,968 8
10	Jalpaiguri	434 8	410 8	408 7	380 0	407 5	398 8	4 703 0	4,148 0	4 590 0	3,391 0	3 904 0	4,681 9
11	Darjeeling	59 2	58 7	57 5	63 4	67 7	68 8	644 0	714 0	712 0	757 0	896 0	1 002 5
12	Malda	201 3	244 0	277 8	285 6	268 3	263 8	2 779 0	2,506 0	2 656 0	2,971 0	2 122 0	2,688 1
13	West Dinajpur	531 5	406 5	521 0	505 0	473 0	517 6	4,316 0	4,487 0	5 005 0	4 236 0	3 474 0	5,212 2
14	Cooch Behar	231 7	240 0	250 2	344 4	354 4	304 6	2,180 0	1,984 0	3,307 7	3 234 0	3 108 0	2 729 2
	Total West Bengal	8 270 2	8 106 9	8 412 9	8 637 2	8,278 2	8 801 6	84,782 0	80,454 0	88 905 7	96,870 0	84,473 0	94,854 0

TABLE No. 9·11(iii) (3)

Acreage and yield of Boro rice in West Bengal from 1947-48 to 1952-53

	Districts	Area in thousand acres						Production in thousand maunds (cleaned rice)					
		1947 48	1948 49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949 50	1950 51	1951 52	1952-53
1	24-Parganas	0 5	0 4	0 2	0 2	0 2	0 3	5 6	4 1	2 1	2 8	2 0	3 0
2	Nadia	0 4	2 7	0 4	0 4	0 9	1 0	3 3	36 7	4 5	4 0	11 0	12 0
3	Murshidabad	0 2	2 4	4 2	5 0	2 1	4 0	67 6	27 1	47 4	50 0	10 0	40 0
4	Burdwan	0 5	2 1	2 3	2 0	0 1	0 9	3 8	42 0	46 3	40 0	73 0	10 8
5.	Birbhum						1 4						9 8
6	Bankura	0 3	0 2	0 2	0 2	0 2	0 2	3 1	2 2	2 2	2 4	2 0	2 4
7	Midnapore	4 6	3 0	1 3	2 0	6 9	7 0	42 8	45 6	15 3	20 0	68 0	79 0
8	Hooghly	2 0	2 9	3 0	4 5	3 0	4 0	19 0	36 2	27 4	54 0	30 0	48 0
9	Howrah	0 1	2 0	2 0	3 0	2 0	2 5	0 7	19 0	15 0	36 0	24 0	30 0
10	Jalpaiguri												
11	Darjeeling	1 0	0 0	0 0				13 6	12 2	10 2			
12	Malda	0 2	16 0	28 6	23 7	19 9	28 3	93 8	195 0	266 2	213 3	187 0	263 0
13	West Dinajpur	0 5	2 0	0 3	0 1	0 1		3 4	22 6	2 1	0 6	1 0	
14	Cooch Behar												
	Total West Bengal	25 3	35 1	38 4	41 1	41 4	48 5	256 2	442 7	438 7	423 1	423 0	498 0

(1) See tables B 2 and B 2(a) for estimates of the years 1937-38 to 1946 47
(2) See tables B 1 and B 1(a) for estimates of the years 1937-38 to 1946-47
(3) See tables B 3 and B 3(a) for estimates of the years 1937-38 to 1946-47.

TABLE No. 9·11(iv) (1)

Acreage and yield of Total rice (Aus + Aman + Boro) in West Bengal from 1947-48 to 1952-53

	Districts	Area in thousand acres						Production in thousand maunds (cleaned rice)					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949 50	1950-51	1951-52	1952-53
1	24-Parganas	1,288 8	1,266 8	1,297 3	1,299 9	1,403 9	1,486 5	13,936 6	12,986 1	14,599 1	13,746 8	11 624 2	12,598 5
2	Nadia	474 6	414 3	459 9	430 7	344 6	405 0	4,274 3	3,977 7	4 618 5	2,876 0	2,021 2	3,498 1
3	Murshidabad	732 7	654 4	664 7	676 3	643 5	715 1	6,032 6	6,321 1	5 717 4	6 905 0	5,455 3	7,018 4
4	Burdwan	1,065 8	1,041 7	1,088 8	1,064 0	1 000 0	1,108 2	11 166 8	10,546 0	11,468 3	13,966 0	11,485 4	13,020 1
5	Birbhum	753 1	777 2	791 5	768 8	711 9	796 6	7,505 0	8,202 0	8,058 0	10,181 0	8,603 2	10,658 7
6	Bankura	726 0	845 4	817 5	856 8	766 8	882 8	7,707 1	9,602 2	8,023 2	9,887 4	9,924 5	10,102 8
7	Midnapore	2 019 1	2,072 8	2,135 4	2,151 7	2,048 0	2 120 0	20,103 3	18,472 6	20,689 8	23,673 0	22,659 3	22,153 9
8	Hooghly	492 7	460 9	472 1	472 1	423 5	457 9	5,270 0	4 266 2	5,963 4	5,819 0	3,793 8	5,733 7
9	Howrah	219 6	201 4	218 4	216 4	223 9	244 8	2,280 7	2,070 0	2,352 0	2 604 0	2,242 8	3,027 6
10	Jalpaiguri	483 7	436 0	437 5	411 5	442 0	443 2	5,054 0	4,294 0	4 755 0	3,545 0	4,193 6	5,045 5
11	Darjeeling	64 0	61 2	59 6	64 2	68 1	70 5	708 6	738 2	781 2	701 0	808 7	1,009 4
12	Malda	436 6	359 2	430 4	435 3	408 8	427 1	3,946 8	3,434 0	3 905 2	4 253 3	3,244 9	4,266 3
13	West Dinajpur	587 0	550 0	574 8	552 3	545 8	619 3	4 830 4	4,883 6	5,471 1	4,046 6	4,060 9	5 829 5
14	Cooch Behar	314 4	317 0	319 7	407 6	455 5	435 9	2,691 1	2,406 3	3,914 7	3,491 0	3,790 4	3 559 0
	Total West Bengal	9,059 0	9,458 9	9,767 6	9,802 6	9 488 1	10,206 9	95,412 3	92,200 0	100 211 4	100,445 1	94 688 2	107,521 0

TABLE No. 9·11(v) (2)

Area and production of principal crops of West Bengal

WHEAT

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951 52	1952 53	1947-48	1948-49	1949 50	1950 51	1951 52	1952-53
1	24 Parganas	0 1	0 1			1 0	0 4	0 7	0 8			5 1	3 5
2	Nadia	8 2	8 4	23 9	24 4	16 4	10 0	67 1	70 8	151 0	215 0	130 9	96 0
3	Murshidabad	13 8	41 0	27 8	45 5	44 4	41 4	228 6	277 5	175 0	428 2	433 3	382 1
4	Burdwan	2 5	5 0	5 6	6 4	6 1	3 2	19 8	35 4	35 0	50 1	72 6	28 4
5	Birbhum	3 3	7 0	6 3	14 4	16 0	10 9	24 6	46 2	40 0	112 6	110 0	94 6
6	Bankura	6 8	6 6	10 4	12 0	9 6	12 8	50 7	43 5	66 0	119 0	85 0	90 9
7	Midnapore	1 2	2 1	1 9	3 7	2 4	0 0	8 6	16 2	12 0	32 4	11 2	6 8
8	Hooghly	0 6	1 1	0 6	2 0	1 0	0 6	4 4	8 1	4 0	17 5	8 2	5 2
9	Howrah	0 1						0 9					
10	Jalpaiguri	0 7	0 6		.	0 7	1 5	3 1	5 4			5 8	6 7
11	Darjeeling	2 7	2 7	1 1	1 2	1 2	1 2	24 3	24 4	10 0	8 0	7 2	8 4
12	Malda	11 0	10 8	9 0	8 5	10 6	11 8	82 1	97 0	57 0	79 6	103 1	135 0
13	West Dinajpur	3 0	2 5	0 6	1 4	5 4	2 2	15 6	13 0	1 0	9 6	32 7	10 9
14	Cooch Behar	6 7	6 7	1 5	5 1	6 5	5 6	53 2	53 2	12 0	46 0	28 7	45 0
	Total West Bengal	90 7	91 6	88 7	124 6	130 3	106 4	583 7	693 0	566 0	1,124 0	1,106 7	960 4

TABLE No. 9·11(vi) (3)

Area and production of principal crops of West Bengal

BARLEY

	Districts	Area in thousand acres						Production in thousand maunds					
		1947 48	1948 49	1949 50	1950-51	1951 52	1952 53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas				0 9	0 2	0 3				8 0	1 7	2 7
2	Nadia	1 0	1 9	5 0	6 0	0 7	3 0	12 3	22 9	34 0	53 2	39 2	27 4
3	Murshidabad	22 4	19 0	25 8	27 2	40 7	33 1	180 6	171 6	178 0	258 1	379 3	207 9
4	Burdwan	0 9	1 0	1 4	1 4	2 3	1 8	7 7	9 0	10 0	12 4	20 0	16 5
5	Birbhum	0 4	0 5	0 6	0 4	0 1	0 6	2 6	3 5	4 0	3 5	0 9	5 5
6	Bankura	1 8	1 4	1 4	1 6	0 5	0 4	14 5	11 3	10 0	12 4	6 4	2 9
7	Midnapore	0 1	0 1	0 2		0 3	0 1	0 7	0 8	1 0		2 6	0 9
8	Hooghly	0 1	0 2	0 2	0 2	0 2	0 1	0 8	2 0	1 0	1 8	1 7	0 9
9	Howrah			0 4						3 0			
10	Jalpaiguri		0 4	0 2	0 1	0 4	0 5		3 7	1 0	0 9	3 0	1 9
11	Darjeeling	0 4	0 4	0 4	0 4	0 3	0 4	4 3	3 0	3 0	2 8	2 1	2 4
12	Malda	24 5	27 0	38 9	32 2	43 5	26 7	173 8	270 0	284 0	279 5	414 1	253 1
13	West Dinajpur	5 0	4 8	2 0	3 8	11 0	4 0	22 6	29 0	14 0	33 7	55 7	45 2
14	Cooch Behar	0 5	0 5	0 4	0 4	0 2	1 0	4 7	4 7	3 5	3 5	1 7	9 1
	Total West Bengal	58 0	57 2	71 9	74 6	109 4	72 9	424 6	531 5	496 5	669 [illegible]	[illegible] 4	666 4

(1) See tables B 4 and B 4(a) for estimates of the years 1937-38 to 1946-47

(2) See tables B 5 and B 5(a) for estimates of the years 1937-38 to 1946-47

TABLE No. 9·11(vii)

Area and production of principal crops of West Bengal

JOWAR

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas				0 4	0 1					3 2	0 6	.
2	Nadia		0 3	0 5	1 2	0 8	0 6		2 2	4 1	12 0	7 2	6 6
3	Murshidabad	0 8	0 8	3 2	7 2	6 0	5 3	6 6	7 2	32 0	72 0	60 0	53 0
4	Burdwan			0 1	0 2	0 2				0 8	1 6	1 4	
5	Birbhum	0 2	0 2	0 2	0 2	0 1	0 1	1 2	1 4	2 0	2 0	0 9	0 8
6	Bankura												
7	Midnapore	1 0				0 1	0 1	6 0				0 6	0 6
8	Hooghly			0 2	0 2	0 3	0 4			1 3	1 4	1 8	2 4
9	Howrah						0 1						0 6
10	Jalpaiguri												
11	Darjeeling												
12	Malda	0 5	0 4	0 4	0 1			3 3	2 3	4 0	0 5		
13	West Dinajpur												
14	Cooch Behar						0 1						0 8
	Total West Bengal	2 5	1 7	4 6	9 5	7 6	6 7	17 1	13 1	44 2	92 7	72 5	64 8

TABLE No. 9·11(viii)

Area and production of principal crops of West Bengal

BAJRA

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24 Parganas												
2	Nadia						0 1						0 5
3	Murshidabad	0 6	0 7	0 6	0 6	0 1	0 1	4 9	6 0	6 0	7 2	0 6	0 7
4	Burdwan				0 1						0 7		
5	Birbhum	0 1	0 2	0 1	0 1			0 6	1 4	1 0	0 9		
6	Bankura												
7	Midnapore	0 2	0 2	0 1	0 1			1 2	1 6	0 7	0 6		
8	Hooghly												
9	Howrah												
10	Jalpaiguri												
11	Darjeeling												
12	Malda	0 5	0 5	0 6	0 3	0 4	0 4	4 1	2 5	6 0	3 0	4 0	4 8
13	West Dinajpur												
14	Cooch Behar												
	Total West Bengal	1 4	1 6	1 4	1 2	0 5	0 6	10 8	12 1	13 7	12 4	4 6	6 0

TABLE No. 9·11(ix)

Area and production of principal crops of West Bengal

MAIZE

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	0 1	0 2	0 4	0 5	0 3	0 4	0 9	1 6	2 7	3 0	1 5	2 4
2	Nadia	0 7	0 1	0 3	0 6	0 8	0 7	4 9	0 6	2 7	3 6	4 8	6 3
3	Murshidabad	0 8	0 9	0 8	0 3	1 3	1 4	7 3	8 1	8 2	2 7	13 0	14 0
4	Burdwan	0 7	2 1	0 2	0 2	0 2	0 4	5 2	14 7	2 7	1 8	1 2	2 8
5	Birbhum	0 9	1 0	2 5	2 7	2 1	2 2	5 4	7 0	24 5	27 0	18 9	17 6
6	Bankura	1 9	2 7	2 6	2 6	2 7	2 8	11 0	15 7	16 3	18 2	16 2	16 8
7	Midnapore	2 0	3 5	3 1	2 7	2 9	3 1	13 0	31 1	24 5	13 5	17 4	18 6
8	Hooghly	0 1	0 1	0 1	0 1	0 1	0 1	0 7	0 8	0 7	0 4	0 5	0 6
9	Howrah	0 1			0 1			1 0			0 4		
10	Jalpaiguri	2 1	1 5	5 5	5 6	5 8	7 5	17 4	8 7	49 0	28 0	34 8	52 5
11	Darjeeling	67 5	67 5	77 5	63 4	67 0	68 6	675 0	675 0	775 0	443 8	475 3	548 8
12	Malda	10 0	8 4	23 1	14 9	17 0	24 7	83 0	42 0	231 2	119 2	143 2	247 0
13	West Dinajpur	0 4	0 4	0 4	0 5	1 0	1 5	2 3	2 3	2 7	3 0	10 0	13 5
14	Cooch Behar												
	Total West Bengal	87 3	88 4	116 5	94 2	103 0	118 4	827 1	807 6	1,140 2	664 6	736 8	940 9

TABLE No. 9·11(x)

Area and production of principal crops of West Bengal

RAGI

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas												.
2	Nadia	0.1						0.5					
3	Murshidabad	0.2	0.2	0.1	0.1	0.1		1.9	1.3	0.8	3.0	0.8	
4	Burdwan												.
5	Birbhum												
6	Bankura												
7	Midnapore	0.2						0.9					
8	Hooghly												
9	Howrah												
10	Jalpaiguri												
11	Darjeeling	5.6	5.6	5.6	18.6	23.4	23.0	44.8	44.8	44.8	111.6	140.4	141.6
12	Malda		0.4						1.0				
13	West Dinajpur												.
14	Cooch Behar												..
	Total West Bengal	6.1	6.2	5.7	18.0	23.5	23.0	47.5	47.7	45.6	114.6	141.2	141.6

TABLE No. 9·11(xi)

Area and production of principal crops of West Bengal

OTHER CEREALS

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	0.3	0.3	0.3				1.8	1.8	1.8			
2	Nadia	0.7	0.7	0.7	0.3	0.8	0.4	3.1	3.1	3.1	1.8	4.8	3.6
3	Murshidabad	3.1	3.1	3.1	4.2	2.0	2.4	18.4	18.4	18.4	25.0	17.4	19.2
4	Burdwan												
5	Birbhum	0.1	0.1	0.1	0.1	0.1		0.6	0.6	0.6	0.4	0.4	.
6	Bankura	6.8	6.8	6.8	6.6	4.8	4.9	48.1	48.4	48.4	43.8	34.8	39
7	Midnapore	8.5	8.5	8.5	4.7	2.5	0.1	51.0	51.0	51.0	23.5	12.7	0.7
8	Hooghly						0.2						2.0
9	Howrah	0.3	0	0.3	1.3	0.4		1.2	1.2	1.2	6.5	2.0	
10	Jalpaiguri												
11	Darjeeling						0.2						1.2
12	Malda	2.3	2.3	2.3	0.9	4.0	3.0	11.5	11.5	11.5	3.7	15.5	14.0
13	West Dinajpur	0.4	0.4	0.4	0.2	0.2		2.0	2.0	2.0	0.8	0.8	.
14	Cooch Behar				2.7	1.5	1.9				10.2	12.0	19.0
	Total West Bengal	22.5	22.5	22.5	21.0	17.2	13.1	138.0	138.0	138.0	121.7	100.4	98.9

TABLE No. 9·11(xii)

Area and production of principal crops of West Bengal

TOTAL CEREALS

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	1,280.3	1,267.4	1,298.0	1,301.7	1,405.5	1,487.6	13,940.0	12,990.3	14,603.6	13,761.0	11,633.1	12,607.1
2	Nadia	486.2	425.7	490.3	463.2	373.1	420.7	4,302.2	4,077.3	4,813.4	3,161.6	2,867.1	3,639.4
3	Murshidabad	804.4	720.1	726.1	761.6	739.0	708.8	6,480.3	6,811.8	6,135.8	7,791.2	6,959.7	7,785.3
4	Burdwan	1,069.9	1,049.8	1,006.1	1,072.3	1,008.8	1,113.6	11,199.5	10,605.1	11,516.8	14,098.6	11,580.6	13,067.8
5	Birbhum	758.1	786.2	801.3	781.7	730.3	810.4	7,340.0	8,262.1	8,125.1	10,327.4	8,825.2	10,777.2
6	Bankura	743.9	862.9	838.7	879.6	784.4	903.7	7,921.7	9,721.1	8,163.0	10,080.8	10,066.0	10,258.1
7	Midnapore	2,032.8	2,078.2	2,149.2	2,162.0	2,057.1	2,124.3	20,184.7	18,573.3	20,728.5	23,743.0	22,706.8	22,181.5
8	Hooghly	403.5	462.3	473.2	474.6	425.1	459.3	5,275.9	4,277.1	5,970.4	5,840.1	3,806.0	5,744.8
9	Howrah	220.1	201.7	219.1	217.8	224.3	244.9	2,280.8	2,071.2	2,356.2	2,610.9	2,244.8	3,028.2
10	Jalpaiguri	486.5	439.1	443.2	417.2	440.8	452.7	5,074.5	4,311.8	4,805.0	3,573.9	4,237.2	5,106.6
11	Darjeeling	141.1	137.4	144.2	147.8	160.0	164.5	1,457.0	1,485.4	1,564.0	1,827.2	1,523.7	1,711.8
12	Malda	485.4	409.0	499.7	492.2	494.2	493.7	4,304.6	3,861.8	4,448.9	4,738.8	3,984.8	4,920.2
13	West Dinajpur	595.8	558.1	578.2	558.2	563.4	621.9	4,881.9	4,030.5	5,493.8	4,693.7	4,160.1	5,899.1
14	Cooch Behar	321.6	324.2	321.6	415.8	463.7	447.5	2,749.0	2,464.2	3,980.2	3,556.7	3,832.8	3,672.9
	Total West Bengal	9,928.1	9,731.1	10,078.9	10,146.6	9,879.6	10,543.6	97,461.1	94,443.0	102,655.6	109,244.9	97,828.8	110,400.0

TABLE No. 9·11(xiii) (1)

Area and production of principal crops of West Bengal

GRAM

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	4 5	4 6	9 3	12 4	23 3	25 3	36 4	38 0	71 0	115 2	210 5	204 7
2	Nadia	85 5	82 0	93 4	85 6	140 9	130 0	416 8	683 9	710 0	821 8	1,423 1	1,476 6
3	Murshidabad	105 0	89 7	105 0	133 6	179 8	136 4	737 1	748 1	805 0	1,286 6	1,688 3	1,042 1
4	Burdwan	6 2	13 9	17 0	16 8	33 6	15 5	50 2	116 1	129 0	129 9	333 0	137 3
5	Birbhum	6 2	15 0	11 0	23 4	25 3	34 1	36 3	125 0	84 0	261 4	253 8	356 3
6	Bankura	1 6	4 3	5 4	7 2	4 8	0 0	11 7	86 0	41 0	67 2	71 9	58 2
7	Midnapore	2 4	3 6	3 1	4 9	7 1	8 5	14 0	30 0	24 0	46 9	65 1	61 6
8	Hooghly	3 0	6 2	6 2	6 2	10 1	9 3	20 5	52 0	47 0	46 9	72 8	75 4
9	Howrah	0 9	0 8	1 0	1 6	0 6	0 6	5 3	7 0	8 0	14 9	1 4	5 5
10	Jalpaiguri					0 3	0 7					2 7	6 4
11	Darjeeling												
12	Malda	22 5	26 3	19 5	19 8	41 5	33 3	144 8	210 1	148 0	172 9	252 7	268 1
13	West Dinajpur	5 2	8 0	1 6	4 4	20 3	8 0	34 0	72 0	12 0	41 8	88 9	81 9
14	Cooch Behar	0 4	0 4	0 5	0 1	0 1	1 1	3 7	3 7	4 5	0 9	0 9	10 1
	Total West Bengal	243 4	255 4	273 9	316 0	487 7	410 0	1 510 8	2,180 9	2,083 5	3 000 4	4,474 1	3,784 2

TABLE No. 9·11(xiv)

Area and production of principal crops of West Bengal

KHARIF PULSES(*)

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	0 2	0 2	0 1	0 1			1 1	1 1	0 4	0 5		
2	Nadia	0 8		1 1				3 6		8 8			
3	Murshidabad	9 8	9 9	9 3	9 1	12 0	10 1	54 1	61 9	83 7	81 7	96 0	80 8
4	Burdwan	0 0	0 0	0 4	0 5	2 4	2 8	4 7	4 4	2 8	4 0	10 2	22 4
5	Birbhum	0 1	0 1	0 1	0 1	0 2	0 3	0 4	0 4	0 6	0 5	1 0	1 5
6	Bankura	2 8	3 6	3 7	3 5	2 3	2 0	12 7	10 6	25 9	17 5	11 5	13 0
7	Midnapore	1 2	1 3	1 1	1 1	1 1	1 4	3 8	7 1	7 0	5 5	8 2	10 0
8	Hooghly	0 1	1 5	1 3	1 3	0 3	0 9	0 6	8 7	5 2	5 2	1 2	5 7
9	Howrah	0 3	3 8	0 4	0 6	0 4	0 7	0 8	8 6	1 6	3 0	2 0	3 8
10	Jalpaiguri				1 8	1 8	1 8				14 4	14 5	14 0
11	Darjeeling	0 6	0 6		0 3	0 5	0 5	4 2	4 2		2 7	3 5	3 1
12	Malda												
13	West Dinajpur			1 7						10 2			
14	Cooch Behar	3 7	4 7	2 9	2 9	3 6	4 7	23 0	23 0	14 5	14 5	21 6	32 9
	Total West Bengal	20 5	25 6	22 4	21 3	24 6	25 8	100 0	130 0	160 7	149 5	178 7	187 2

TABLE No 9·11(xv)

Area and production of principal crops of West Bengal

RABI PULSES(†)

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	151 5	105 9	150 8	110 3	141 8	151 7	910 7	1 131 1	784 0	637 6	881 1	704 6
2	Nadia	178 5	180 2	118 0	109 8	110 3	151 5	1,147 1	1 280 1	603 0	594 5	846 8	820 6
3	Murshidabad	200 0	183 4	234 0	217 0	200 3	235 5	1,213 9	1,174 1	1 500 0	1,498 8	1 564 7	1,640 0
4	Burdwan	37 3	40 0	36 5	36 5	41 2	45 3	280 9	269 0	204 0	243 8	230 5	317 6
5	Birbhum	25 4	30 2	26 9	31 8	35 5	62 4	130 2	240 0	147 0	195 0	119 0	473 1
6	Bankura	18 7	26 5	21 9	25 3	14 4	23 8	123 1	198 1	112 0	155 3	101 2	121 9
7	Midnapore	134 4	114 5	141 3	128 8	72 1	136 0	807 6	833 8	692 0	763 4	481 4	906 9
8	Hooghly	25 0	30 7	42 7	47 5	48 5	58 9	163 0	211 0	230 0	274 3	291 7	332 8
9	Howrah	28 3	21 4	32 2	22 8	19 5	35 8	158 2	148 0	183 0	133 5	145 6	197 7
10	Jalpaiguri	11 4	17 0	12 8	8 7	7 9	10 9	78 0	130 1	52 0	45 2	49 2	41 1
11	Darjeeling	0 3	1 1	0 8	0 4	0 5	0 4	2 1	0 0	3 0	2 0	3 2	2 1
12	Malda	152 8	153 0	172 0	172 7	144 6	139 9	1,004 1	1,120 2	785 0	1,285 3	830 4	774 7
13	West Dinajpur	30 1	48 3	34 1	35 9	43 5	38 1	198 6	358 1	149 0	184 9	247 1	197 7
14	Cooch Behar	18 2	18 2	18 0	18 0	14 1	22 4	104 0	104 0	103 0	103 1	75 1	133 9
	Total West Bengal	1 021 8	1,042 4	1 049 5	971 5	933 2	1 112 6	6 280 5	7,219 8	5,547 0	6,116 7	5,832 0	6,604 7

(*)Kharif pulses include the following varieties —(i) Mung, (ii) Mashkalai and (iii) other kharif pulses

(†)Rabi pulses include the following varieties — (i) Mung, (ii) Musur, (iii) Mashkalai, (iv) Motor (v) Khesari, (vi) Tur or Arhar and (vii) other pulses

(1) See tables B 6 and B 6(a) for the estimates of the years 1937-38 to 1946-47

TABLE No. 9·11(xvi)

Area and production of principal crops of West Bengal

RABI AND KHARIF PULSES

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	151 7	166 1	156 0	116 4	141 8	151 7	920 8	1,132 4	784 4	638 1	881 1	704 6
2	Nadia	179 3	186 2	110 7	109 8	140 [illegible]	151 5	1,150 7	1 286 1	611 8	594 5	846 8	820 6
3	Murshidabad	218 8	103 3	243 3	226 1	221 3	245 0	1 208 0	1 236 0	1,583 7	1,580 5	1,660 7	1,720 8
4	Burdwan	38 2	40 9	30 9	37 0	43 6	48 1	295 6	273 4	206 8	247 8	255 7	340 0
5	Birbhum	25 5	36 3	27 0	31 9	35 7	62 7	139 0	246 4	147 6	195 5	120 0	474 6
6	Bankura	21 5	30 1	25 6	28 8	16 7	26 4	135 8	208 7	137 9	172 8	112 7	184 9
7	Midnapore	135 6	115 8	142 7	129 9	73 2	137 4	811 4	840 9	699 0	768 9	489 6	916 9
8	Hooghly	26 0	32 2	44 0	48 8	48 8	59 8	163 6	219 7	235 2	279 5	292 9	338 5
9	Howrah	28 6	25 2	32 6	23 4	19 9	36 5	159 0	156 6	184 6	136 5	147 6	201 5
10	Jalpaiguri	11 4	17 0	12 8	10 5	9 7	12 7	78 0	130 1	52 0	59 6	63 7	55 1
11	Darjeeling	0 9	1 7	0 8	0 7	1 0	0 9	6 3	13 2	3 0	4 7	6 7	5 2
12	Malda	152 8	153 0	172 9	172 7	144 6	130 9	1,004 1	1,120 2	785 0	1,285 3	839 4	774 7
13	West Dinajpur	30 1	48 3	35 8	35 9	43 5	38 1	198 6	358 1	159 2	184 9	247 1	197 7
14	Cooch Behar	21 9	21 9	20 9	20 9	17 7	27 1	127 0	127 0	117 5	117 6	96 7	166 8
	Total West Bengal	1,042 3	1 008 0	1,071 9	992 8	957 8	1,138 4	6,308 5	7,348 8	5,707 7	6 266 2	6,010 7	6 851 9

TABLE No. 9·11(xvii)

Area and production of principal crops of West Bengal

TOTAL PULSES INCLUDING GRAM

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	156 2	170 7	166 2	128 8	165 1	177 0	957 2	1 170 4	855 4	753 3	1 100 6	909 3
2	Nadia	264 8	268 2	213 1	195 4	281 2	282 4	1 567 5	1 970 0	1,321 8	1,416 3	2,269 9	2 297 2
3	Murshidabad	323 8	288 0	349 2	350 7	401 1	382 0	2 005 1	1 984 1	2 388 7	2,867 1	3,349 0	2,762 9
4	Burdwan	44 4	54 8	53 9	53 8	77 2	63 9	285 8	380 5	335 8	377 7	588 7	477 8
5	Birbhum	31 7	51 3	38 0	55 3	61 0	96 8	175 9	371 4	231 6	456 9	373 8	830 9
6	Bankura	23 1	34 4	31 0	36 0	21 5	32 4	147 5	244 7	178 9	240 0	184 6	198 1
7	Midnapore	138 0	119 4	145 8	134 8	80 3	145 9	825 4	870 9	723 0	815 8	504 7	978 5
8	Hooghly	29 0	38 4	50 2	55 0	58 9	69 1	184 1	271 7	282 2	326 4	365 7	418 9
9	Howrah	29 5	26 0	33 6	25 0	20 5	37 1	164 3	163 6	102 6	151 4	140 0	207 0
10	Jalpaiguri	11 4	17 0	12 8	10 5	10 0	13 4	78 0	130 1	52 0	59 6	66 4	61 5
11	Darjeeling	0 9	1 7	0 8	0 7	1 0	0 9	6 3	13 2	3 0	4 7	6 7	5 2
12	Malda	175 3	179 3	192 4	192 5	186 1	178 2	1 148 9	1 339 [illegible]	933 0	1,458 2	1 092 1	1 042 8
13	West Dinajpur	85 3	56 9	37 4	40 3	63 8	46 1	232 6	430 1	171 2	226 7	386 0	279 6
14	Cooch Behar	22 3	22 3	21 4	21 0	17 8	28 2	130 7	130 7	122 0	118 5	97 6	176 9
	Total West Bengal	1,285 7	1,323 4	1,345 8	1,308 8	1 445 5	1 548 4	7,000 3	0 479 7	7 791 2	9 272 6	10,484 8	10,636 1

TABLE No. 9·11(xviii)

Area and production of principal crops of West Bengal

TOTAL FOODGRAINS

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	1,445 5	1 438 1	1,464 2	1 130 5	1 570 6	1 664 6	14 897 2	14 160 7	15,459 0	14,514 3	12,733 7	18,516 4
2	Nadia	751 0	693 9	703 4	658 6	654 3	703 1	5 929 7	6 047 3	6 135 2	4,577 9	5,137 0	5 936 6
3	Murshidabad	1,128 2	1,003 1	1,075 3	1,121 3	1,140 1	1 180 8	8,485 4	8,795 9	8,524 5	10 658 8	9,708 7	10,548 2
4	Burdwan	1,114 3	1 104 6	1,150 0	1,126 1	1,086 0	1,177 5	11,485 3	10,994 6	11,852 6	14,416 3	12,169 3	8,545 1
5	Birbhum	789 8	837 5	839 3	837 0	701 [illegible]	907 2	7,515 0	8,633 5	8,356 7	10,784 3	9,199 0	11,608 1
6	Bankura	767 0	807 3	869 7	915 6	805 9	936 1	8 060 2	9,965 8	8,342 8	10,320 8	10,251 5	10 451 2
7	Midnapore	2,170 3	2,206 6	2,205 0	2,297 7	2,137 4	2,270 2	21,010 1	19,444 2	21,451 5	24,558 8	23,211 5	23 160 0
8	Hooghly	522 5	500 7	523 4	529 6	484 0	528 4	5,460 0	4,548 8	6,252 6	6,166 5	4 171 7	6,158 7
9	Howrah	249 6	227 7	252 7	242 8	244 8	282 0	2 454 1	2 234 8	2,548 8	2,762 3	2,393 8	3 235 2
10	Jalpaiguri	497 9	456 1	456 0	427 7	459 8	466 1	5,152 5	4,441 9	4,857 0	3,633 5	4,303 6	5,168 1
11	Darjeeling	142 0	139 1	145 0	148 5	161 9	165 4	1,463 3	1,498 6	1,567 0	1,331 9	1,530 4	1,717 0
12	Malda	660 7	588 3	692 1	684 7	680 3	666 9	5,453 5	5,201 1	5,381 9	6,197 0	5 076 9	5,963 0
13	West Dinajpur	631 1	615 0	615 6	598 6	627 2	668 0	5,114 5	5,360 0	5,665 0	4,920 4	4,496 1	6,178 7
14	Cooch Behar	343 9	346 5	343 0	436 8	481 5	475 7	2,870 7	2,594 9	4,052 2	3,675 2	3,930 4	3,849 8
	Total West Bengal	11,218 8	11,054 5	11,424 7	11 455 4	11,325 1	12,092 0	105,[illegible]70 4	103,922 7	110,446 8	118 517 5	108,[illegible]3 6	121,036 1

TABLE No. 9·11(xix)

Area and production of principal crops of West Bengal

LINSEED

Districts.		Area in thousand acres						Production in thousand maunds.					
		1947-48	1948-49	1949-50	1950 51	1951 52	1952 53	1947 48	1948-49	1949-50	1950-51	1951-52	1952-53
1.	24-Parganas						0 1					..	0 4
2.	Nadia	9 7	10 0	20 8	22 5	15 0	14 3	47 3	48 8	73 0	98 8	60 0	55 2
3	Murshidabad	25 2	28 0	27 5	32 6	25 0	40 1	111 4	151 2	96 0	149 6	125 0	182 9
4	Burdwan ..	0 4	0 4	0 6	0 5	0 4	0 4	1 5	2 2	2 0	2 2	2 0	1 4
5	Birbhum .	0 8	0 4	1 7	1 6	1 6	1 0	3 9	2 0	6 0	7 2	8 0	4 6
6	Bankura .	1 2	1 3	2 2	2 9	1 3	0 9	5 2	5 9	8 0	13 0	5 2	2 3
7	Midnapore	0 2	0 3	0 6	0 6	0 3	1 5	0 9	1 7	2 0	2 7	1 5	5 3
8	Hooghly					0 1						0 5	
9	Howrah	0 3	0 3	0 6	0 5	0 5		1 1	1 2	2 0	2 2	2 5	..
10.	Jalpaiguri ..						0 1						0 4
11	Darjeeling	.		.								.	
12.	Malda .	3 1	2 8	6 6	4 2	0 6	5 3	13 5	13 7	23 0	18 9	3 0	8 4
13	West Dinajpur ..	0 7	0 7	0 1	0 4	0 1	0 2	3 4	3 6	0 5	1 8	0 5	0 7
14	Cooch Behar ..					.							
	Total West Bengal .	41 6	44 2	60 7	65 8	44 9	63 0	188 2	230 8	212 5	296 4	208 2	261 6

TABLE No. 9·11(xx) (1)

Area and production of principal crops of West Bengal

RAPE AND MUSTARD

Districts		Area in thousand acres						Production in thousand maunds					
		1947-48	1948 49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951 52	1952-53
1	24-Parganas	6 9	7 4	5 5	4 8	7 8	10 2	48 8	44 9	27 0	28 8	88 3	18 8
2	Nadia	21 0	17 1	14 3	11 9	7 8	0 8	92 9	93 7	70 0	58 9	38 3	46 9
3	Murshidabad	18 8	17 0	11 4	21 6	25 0	17 6	83 1	93 2	56 0	162 9	195 0	207 5
4	Burdwan	5 9	9 0	2 3	1 5	3 7	4 3	26 1	32 9	11 0	7 4	15 6	13 9
5	Birbhum	1 8	0 9	0 6	1 0	1 5	2 2	8 9	4 4	3 0	5 0	7 4	10 5
6.	Bankura	4 8	4 8	3 1	4 3	2 3	2 9	21 2	22 2	15 0	21 8	11 3	13 9
7	Midnapore	7 7	7 5	13 8	12 0	7 5	9 5	31 5	39 1	68 0	59 4	13 7	17 5
8	Hooghly	1 8	0 7	1 6	2 2	1 8	1 5	9 7	4 6	8 0	10 9	8 3	7 2
9	Howrah	0 4	0 4	0 2	0 8	0 4	0 5	1 0	2 1	1 0	4 0	2 0	2 4
10	Jalpaiguri	34 6	32 9	30 2	28 0	40 0	29 3	171 3	199 7	148 0	135 5	207 2	126 6
11	Darjeeling	3 5	3 5	2 4	2 2	4 9	5 0	23 1	23 1	12 0	10 9	24 1	32 3
12.	Malda	11 5	13 0	27 2	27 4	32 5	45 1	50 9	64 4	133 0	185 6	176 8	330 1
13	West Dinajpur	26 0	27 0	48 3	62 8	51 0	56 8	128 7	142 6	237 0	312 1	202 0	189 7
14	Cooch Behar .	34 6	34 6	40 6	40 6	31 6	31 5	157 0	157 0	176 0	175 8	118 8	176 4
	Total West Bengal	181 3	172 8	201 5	221 1	217 8	226 2	855 1	923 9	965 0	1,123 5	1,059 3	1,193 7

TABLE No. 9·11(xxi)

Area and production of principal crops of West Bengal

WINTER TIL

Districts		Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949 50	1950-51	1951 52	1952-53	1947-48	1948 49	1949 50	1950-51	1951-52	1952 53
1	24-Parganas .												
2	Nadia	0 9	0 8	0 7	0 7	0 6	0 7	4 5	3 2	4 1	4 2	3 0	4 2
3	Murshidabad	3 0	2 7	2 2	1 9	1 5	0 6	14 7	15 1	14 2	11 4	7 5	3 6
4.	Burdwan	0 4	0 4	0 4	0 3	0 3	0 3	2 4	2 1	2 2	1 4	1 5	1 5
5	Birbhum	0 4	0 3	0 2	0 2	0 5	0 5	1 9	1 4	1 4	1 2	2 5	2 5
6.	Bankura	4 3	4 0	4 5	4 5	3)	2 6	19 6	15 4	18 9	31 5	18 0	15 6
7	Midnapore	1 2	1 2	1 3	1 1	1 2	0 8	5·5	6 2	8 2	5 0	6 0	4·0
8.	Hooghly .	0 1						0 7					..
9.	Howrah ..		.										.
10.	Jalpaiguri .	0 1	0 1					0 4	0 6		..		..
11	Darjeeling .			.						.	..	..	..
12.	Malda	0 9	0 6	0 6	0 5	0 4	0 4	4 2	2 8	2 8	2 5	2 0	1·6
13.	West Dinajpur ..	0 1	0 1	0 1	0 1	0 4	0 1	0 4	0 4	0 4	0 5	2 0	0 6
14.	Cooch Behar				.								..
	Total West Bengal ..	11 4	10·2	10·0	9 3	7·9	6 0	54 3	47·2	52 2	57 7	42·5	33 6

(1) See tables B·7 and B·7(a) for estimates of the years 1937-38 to 1946-47.

TABLE No. 9·11(xxii)

Area and production of principal crops of West Bengal

SUMMER TIL

	Districts.	Area in thousand acres						Production in thousand maunds.					
		1947-48	1948 49	1949 50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1.	24-Parganas	0 1	0 1	0 1				0 6	0 6	0 6			
2	Nadia					.							
3	Murshidabad	4 1	7 7	2 0	1 8	1 0	1 0	23 0	44 7	7 0	7 5	4 0	5 0
4.	Burdwan	0 9	0 9	1 0	1 2	1 0	1 0	5 8	5 2	6 0	6 7	5 0	6 0
5	Birbhum	0 8	0 9	0 7	0 5	0 3	0 4	3 8	4 2	3 3	1 8	1 5	1 6
6	Bankura	3 3	3 4	2 0	1 8	1 8	1 8	17 3	17 8	10 5	8 8	10 8	9 0
7	Midnapore	1 2	1 9	2 1	1 9	1 9	2 6	4 2	9 6	11 0	10 4	13 3	18 2
8	Hooghly	0 1	0 1	0 5	0 3	0 3	0 3	0 4	0 4	2 1	1 3	1 8	1 5
9	Howrah											.	
10	Jalpaiguri												
11	Darjeeling												
12	Malda		.										
13	West Dinajpur												
14	Cooch Behar												
	Total West Bengal	10 5	15 0	8 4	7 5	6 3	7 1	55 1	82 5	40 5	36 5	36 4	41 3

TABLE No. 9·11(xxiii)

Area and production of principal crops of West Bengal

TOTAL TIL

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948 49	1949-50	1950-51	1951 52	1952 53	1947-48	1948-49	1949-50	1950-51	1951-52	1952 53
1	24-Parganas	0 1	0 1	0 1				0 6	0 6	0 6			
2.	Nadia	0 9	0 8	0 7	0 7	0 6	0 7	4 5	3 2	4 1	4 2	3 0	4 2
3	Murshidabad	7 1	10 4	4 2	3 7	2 5	1 6	37 7	50 8	21 2	19 0	11 5	8 6
4	Burdwan	1 3	1 3	1 4	1 5	1 3	1 3	8 2	7 3	8 2	8 1	6 5	7 5
5	Birbhum	1 2	1 2	0 9	0 7	0 8	0 9	5 7	5 6	4 7	3 0	4 0	4 1
6	Bankura	7 6	7 4	6 5	6 3	4 8	4 4	36 0	33 2	29 4	40 3	28 8	24 6
7	Midnapore	2 4	3 1	3 4	3 0	3 1	3 4	9 7	15 8	19 2	15 4	19 3	22 2
8	Hooghly	0 2	0 1	0 5	0 3	0 3	0 3	1 1	0 4	2 1	1 2	1 8	1 5
9	Howra	.											
10	Jalpaiguri	0 1	0 1					0 4	0 6		.		
11	Darjeeling	..											
12.	Malda	0 9	0 6	0 6	0 5	0 4	0 4	4 2	2 8	2 8	2 5	2 0	1 6
13	West Dinajpur	0 1	0 1	0 1	0 1	0 4	0 1	0 4	0 4	0 4	0 5	2 0	0 6
14	Cooch Behar												
	Total West Bengal	21 9	25 2	18 4	16 8	14 2	13 1	100 4	129 7	92 7	94 2	78 9	74 0

TABLE No. 9·11(xxiv)

Area and production of principal crops of West Bengal

OTHER OILSEEDS

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951 52	1952 53	1947 48	1948-49	1949 50	1950-51	1951-52	1952-53
1	24-Parganas	6 2	8 2	5 7	5 7	5 8	4 0	21 9	32 1	20 1	17 1	17 4	18 4
2	Nadia	0 8	0 6	0 5	0 5	0 2	0 3	3 4	2 3	1 7	2 5	1 0	1 5
3	Murshidabad	2 0	1 0	1 5	1 8	1 0	0 8	5 7	6 7	4 7	3 9	3 0	2 4
4	Burdwan				0 3	0 4	0 4				1 2	1 2	1 2
5	Birbhum	0 2	0 1		0 1	0 1	0 2	0 6	0 3		0 3	0 4	0 8
6	Bankura	9 1	9 0	9 0	8 4	9 4	9 9	25 0	20 8	26 8	25 2	37 6	39 6
7	Midnapore	1 8	1 9	1 9	2 0	2 1	2 3	5 4	7 7	6 7	8 0	10 5	11 5
8	Hooghly	0 9		0 1	1 1	1 0	1 2	3 1		0 3	4 4	5 0	6 0
9	Howrah	0 2	0 2	0 2	0 2	0 8	0 8	0 6	0 6	0 6	8 0	8 2	8 2
10	Jalpaiguri	0 2	0 2	0 2		0 2		0 6	0 8	0 8	.	0 8	.
11	Darjeeling	0 3	0 3	0 3	0 4			1 3	1 3	1 3	1 6		..
12.	Malda	0 7	0 6	0 2	0 3	0 1	0 1	2 0	1 3	0 7	1 2	0 4	0 4
13	West Dinajpur		..										
14	Cooch Behar											..	
	Total West Bengal	22 4	23 0	19 6	22 1	21 1	20 6	70 5	79 9	63 7	78 4	80 5	85 0

TABLE No. 9·11(xxv)

Area and production of principal crops of West Bengal

TOTAL OILSEEDS

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52.	1952-53.
1	24-Parganas	15 2	15 7	11 9	10 5	13 6	14 9	71 3	77 6	47 7	40 9	55 7	37 6
2	Nadia	32 4	28 5	36 3	35 6	23 6	25 1	148 1	148 0	148 8	164 4	102 9	107 8
3	Murshidabad	58 1	57 3	44 6	59 2	53 5	60 1	297 9	310 0	177 9	335 4	394 5	401 4
4	Burdwan	7 6	7 7	4 3	3 8	5 8	6 4	35 8	42 4	21 2	18 9	25 3	24 0
5	Birbhum	4 0	2 6	3 2	3 4	4 0	4 3	19 1	12 3	13 7	15 5	19 8	20 0
6	Bankura	22 7	22 5	20 8	21 9	17 8	18 1	89 2	88 1	70 2	99 8	82 9	80 4
7	Midnapore	12 1	12 8	19 7	17 6	13 0	16 7	47 5	64 3	95 9	85 5	45 0	56 5
8	Hooghly	2 9	0 8	2 2	3 6	3 2	3 0	13 9	5 0	10 4	16 6	16 1	14 7
9	Howrah	0 9	0 9	1 0	3 3	1 7	1 3	3 6	3 0	3 6	14 2	7 7	5 6
10	Jalpaiguri	34 9	33 2	30 4	28 0	40 2	29 4	172 8	201 1	148 8	135 5	208 0	127 0
11	Darjeeling	3 6	3 8	2 7	2 6	4 9	5 0	24 4	24 4	13 3	12 5	24 1	82 3
12	Malda	16 2	17 0	34 0	32 4	33 6	50 0	70 6	82 2	159 5	158 2	182 2	340 5
13	West Dinajpur	26 8	27 8	48 5	63 3	51 5	57 1	132 5	140 0	237 9	314 4	204 5	191 0
14	Cooch Behar	34 6	34 6	40 6	40 6	31 6	31 5	157 0	157 0	176 0	175 8	118 8	170 4
	Total West Bengal	267 2	265 2	300 2	325 8	298 0	329 8	1 221 2	1,363 8	1 333 0	1,567 6	1,426 9	1,615 2

TABLE No. 9·11(xxvi)

Area and production of principal crops of West Bengal

POTATO

	Districts.	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	4 8	5 9	5 8	3 6	6 0	5 1	451 1	485 0	540 0	370 2	588 5	479 4
2	Nadia	0 5	0 5	0 9	1 1	1 7	1 0	55 9	41 0	84 0	113 7	187 0	137 0
3	Murshidabad	3 5	5 1	5 2	5 2	4 5	6 2	335 4	420 0	486 0	558 7	407 3	600 7
4.	Burdwan	16 0	10 8	22 8	13 0	18 4	11 7	1 516 1	840 0	2 417 0	1,257 1	1,053 1	1,707 0
5	Birbhum	4 1	4 2	6 4	9 9	8 2	9 6	301 3	316 0	612 0	1,011 5	759 0	861 0
6	Bankura	2 6	3 7	4 1	4 7	2 0	4 1	244 5	304 0	314 0	513 0	240 1	418 2
7	Midnapore	7 7	10 4	11 4	12 8	10 8	10 4	733 6	856 0	933 0	1,172 1	889 5	904 2
8	Hooghly	22 7 (Hooghly and Howrah)	24 6	25 6	21 4	32 3	30 1	2 151 0 (Hooghly and Howrah)	2,024 0	2,383 0	3,345 5	5,408 0	4,597 8
9	Howrah		2 7	3 2	2 1	4 3	1 0		222 0	298 0	245 9	629 2	258 0
10	Jalpaiguri	7 0 (Jalpaiguri and Darjeeling)	7 5	4 2	3 6	3 6	2 7	747 0 (Jalpaiguri and Darjeeling)	617 0	307 0	310 6	340 6	167 3
11	Darjeeling		2 4	2 2	5 0	4 7	5 7		175 0	163 0	303 4	205 4	342 0
12	Malda	1 5	1 7	2 1	2 1	1 7	2 2	130 7	110 0	223 0	130 4	100 8	166 0
13	West Dinajpur	2 3	3 4	4 0	3 8	2 9	4 1	216 6	280 0	372 0	205 8	107 8	514 3
14	Cooch Behar	2 7	2 7	3 0	3 0	2 3	2 7	281 7	281 7	319 6	310 6	294 8	231 2
	Total West Bengal	76 3	85 6	101 2	91 6	104 0	100 4	7,208 4	7,080 7	9,541 6	9,938 5	12,029 0	11,464 1

TABLE No. 9·11(xxvii)

Area and production of principal crops of West Bengal

SUGARCANE

	Districts	Area in thousand acres						Production in thousand maunds					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	10 6	11 0	7 2	1 6	2 7	1 6	4,553 3	5,668 8	3,078 9	704 0	1,215 0	1,008 6
2	Nadia	3 2	3 6	3 4	5 2	4 7	5 5	1,407 6	1,391 4	1,453 9	2,288 0	2,350 0	3,421 8
3	Murshidabad	11 0	11 4	8 2	10 9	9 1	10 4	4 725 1	4,876 1	3,280 0	4,706 0	4,095 0	5,239 6
4	Burdwan	10 3	12 1	12 0	7 2	9 0	9 3	4 602 0	5,175 6	5,688 0	2,833 0	5,400 0	4,773 2
5	Birbhum	8 1	8 5	7 6	4 6	5 1	7 5	3 145 6	2,034 0	1,644 6	2,188 0	2,295 0	4,624 5
6	Bankura	3 0	3 1	3 5	3 0	3 0	1 1	1,288 7	1,507 5	1,803 2	1,905 0	1,850 0	1,971 6
7	Midnapore	4 2	3 9	4 4	6 7	4 4	3 5	1,587 8	1,869 1	2,266 9	3,071 0	2,200 0	1,977 0
8	Hooghly	3 1	3 1	2 3	3 0	2 4	1 7	1,475 4	1,198 1	920 0	969 0	900 0	960 5
9	Howrah	2 5	2 0	1 5	2 5	1 2	0 4	1,202 9	1,030 7	772 8	1,100 0	540 0	226·4
10	Jalpaiguri	1 7	1 0	1 5	0 4	0 4	0 5	660 2	812 8	772 8	176 0	100 0	282 4
11	Darjeeling	0 4	0 4	0 2	0 2	0 2	0 1	206 9	206 2	100 0	96 0	80 0	47·1
12	Malda	2 9	2 6	3 4	5 7	3 0	7 2	1 245 7	1,112 1	1,360 0	2,508 0	1,320 0	2,888 7
13	West Dinajpur	2 1	2 1	2 1	1 4	1 0	1 3	815 5	898 8	1,066 8	616 0	440 0	734 2
14	Cooch Behar	0 2	0 2	0 2	0 2	0 1	0 2	65 3	65 3	70 0	58 0	80 0	113 0
	Total West Bengal	63 3	65 0	57 5	52 6	46 3	52 3	27,372 0	28,836 9	24,277 9	23,298 0	22,815 0	28,268 1

TABLE No. 9·11(xxviii)

Area and production of principal crops of West Bengal (I)

JUTE

	Districts	Area in thousand acres 1947-48	1948 49	1949 50	1950-51	1951 52	1952-53	Production in thousand bales 400 lb each 1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	41 1	65 3	80 3	97 0	124 8	127 9	97 5	188 2	259 5	242 5	397 9	326 5
2	Nadia	22 2	37 7	56 0	77 0	129 8	108 2	60 6	120 5	188 5	154 0	261 3	261 1
3	Murshidabad	44 2	63 9	113 1	155 9	156 2	143 6	91 9	175 8	268 3	343 0	274 6	414 5
4.	Burdwan	5 7	10 0	11 6	15 6	35 3	26 8	16 8	32 1	43 6	39 0	114 7	84 4
5	Birbhum	0 1	0 4	0 5	0 5	0 4	1 6	0 2	1 0	1 4	1 0	1 1	4 9
6	Bankura	0 3	0 2	1 8	2 1	2 7	4 0	0 4	0 4	5 3	3 2	3 2	14 6
7	Midnapore	11 3	17 5	31 2	43 2	44 1	43 9	24 9	41 9	111 9	95 0	142 6	131 4
8	Hooghly	26 7	41 5	49 4	55 5	101 5	79 9	79 6	123 6	139 8	122 1	333 4	301 1
9	Howrah	5 2	9 4	11 4	11 7	20 7	18 9	17 7	34 0	33 3	29 3	65 6	61 5
10	Jalpaiguri	26 3	24 5	24 4	34 4	41 8	44 4	60 5	58 2	68 5	89 4	150 9	94 9
11	Darjeeling	2 3	1 6	2 7	3 0	3 6	5 0	4 7	4 0	8 2	9 0	9 5	9 5
12	Malda	27 7	23 3	43 8	51 5	70 4	73 5	48 2	80 2	197 1	103 0	158 0	262 7
13	West Dinajpur	16 1	19 6	30 4	45 0	47 9	69 7	46 5	49 4	70 4	90 0	103 1	188 9
14	Cooch Behar	37 2	35 0	40 5	58 5	90 0	71 5	99 2	47 0	107 2	175 5	314 5	207 1
	Total West Bengal	266 4	349 9	498 0	650 9	876 1	819 8	648 7	906 3	1,452 5	1,496 0	2,380 4	2,363 1

TABLE No. 9·11(xxix)

Area and production of principal crops of West Bengal

COTTON

	Districts	Area in thousand acres 1947-48	1948 49	1949 50	1950 51	1951-52	1952-53	Production in thousand bales of 392 lb each 1947-48	1948 49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas						070						014
2	Nadia	050	013	030	020	290	150	063	019	019	003	097	090
3	Murshidabad					100	020					080	010
4	Burdwan				040	400	280				018	102	112
5	Birbhum				030	450	120				004	046	024
6	Bankura	150	150	100	100	710	360	061	030	026	017	178	072
7	Midnapore	105		013	080	1 170	020	137		020	010	175	124
8	Hooghly	.				020	030					008	018
9	Howrah ..	..	..		.	010	.	.	.			004	
10	Jalpaiguri	.			050	000	120				004	060	024
11	Darjeeling .												.
12	Malda .	.						.			.		
13	West Dinajpur						040						020
14	Cooch Behar												
	Total West Bengal	395	163	171	380	3 300	1 810	261	058	065	056	750	508

TABLE No. 9·11(xxx)

Area and production of principal crops of West Bengal

TOBACCO

	Districts	Area in thousand acres 1947-48	1948 49	1949 50	1950 51	1951 52	1952-53	Production in thousand maunds 1947-48	1948-49	1949-50	1950 51	1951-52	1952 53.
1.	24-Parganas	2 7	2 0	1 6	0 8	0 9	0 9	34 787	24 498	13 610	6 533	8 167	8 983
2	Nadia	0 9	0 8	1 6	1 5	0 8	0 5	6 914	6 288	16 332	18 882	6 805	4 355
3.	Murshidabad	1 1	1 1	0 3	0 3	0 3	0 3	12 303	13 801	5 580	3 103	2 722	2 722
4.	Burdwan	0 3	0 1	0 2	0 2	0 2	0 3	3 212	0 817	1 524	1 905	1 633	2 450
5.	Birbhum			0 1	0 1	0 1	0 1			0 817	0 272	0 817	0 544
6.	Bankura .	0 1	0 1	0 1	0 2	0 2	0 2	1 089	0 871	1 089	1 361	1 361	1 361
7.	Midnapore	0 8	0 7	0 7	0 7	0 7	0 4	7 295	8 167	8 167	7 349	5 716	4 083
8	Hooghly	0 4	0 5	0 5	0 5	0 4	0 4	3 892	5 444	8 167	4 627	3 811	4 355
9.	Howrah		0 1	0 1	0 1	0 1	0 1		1 089	1 089	0 817	0 817	0 817
10	Jalpaiguri .	10 5	10 5	0 1	6 0	5 1	6 7	98 509	96 903	54 440	37 019	26 676	58 523
11	Darjeeling .	0 5	0 5	0 2	0 2	0 1	0 2	5 798	5 444	2 722	1 089	0 817	1 361
12	Malda .	4 5	2 0	1 6	1 7	1 0	1 5	52 290	19 054	16 332	13 066	10 888	11 977
13	West Dinajpur	1 0	1 5	1 4	1 0	0 7	0 8	11 187	16 332	13 610	9 527	6 261	6 533
14	Cooch Behar	28 4	28 4	29 8	29 8	27 7	27 8	210 710	210 710	204 150	204 150	187 818	240 353
	Total West Bengal ..	52 1	48 3	47 3	44 0	38 9	40 2	447 086	409 418	347 629	304 700	264 809	348 417

(I) See tables B 8 (a) for estimates of the years 1937-38 to 1946-47.

TABLE No. 9·12(I)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	1 Aman (Winter) (cleaned rice.)						2 Aus (Autumn) (cleaned rice).					
		1947-48	1948 49	1949-50	1950-51	1951-52	1952 53	1947-48	1948 49	1949 50	1950 51	1951-52	1952 53
1.	24-Parganas	11 24	10 28	11 36	10 69	8 16	8 41	7 68	9 80	9 71	7 91	11 38	9 53
2	Nadia	9 49	8 50	10 02	7 73	5 93	7 40	8 58	10 50	9 15	5 21	9 20	9 80
3	Murshidabad	8 97	10 24	8 57	12 00	8 58	10 41	7 05	8 40	8 60	6 80	8 10	8 52
4	Burdwan	10 05	10 15	10 53	13 13	11 65	11 76	5 15	9 30	10 18	12 54	8 18	11 55
5	Birbhum	10 00	10 83	10 25	13 22	12 36	13 25	6 75	8 60	9 73	14 45	10 79	14 76
6	Bankura	11 19	12 03	10 70	11 66	14 36	12 06	6 38	9 00	6 47	11 06	7 42	8 38
7	Midnapore	10 30	9 01	9 80	11 16	11 28	10 60	7 36	7 70	7 28	8 33	8 18	8 16
8	Hooghly	11 08	9 28	12 79	12 39	8 92	12 61	7 44	8 70	10 21	11 05	9 21	10 57
9	Howrah	10 49	10 32	10 78	12 04	10 00	12 37	6 74	7 40	12 80	11 85	9 89	12 51
10	Jalpaiguri	10 82	10 10	11 23	8 90	9 58	11 74	7 18	5 70	5 73	5 03	8 18	8 19
11	Darjeeling	10 88	12 10	12 39	11 94	13 24	14 57	10 85	7 50	7 60	5 00	6 60	4 07
12	Malda	9 64	10 23	9 56	10 40	7 91	10 19	7 89	7 40	7 62	8 48	7 76	9 60
13	West Dinajpur	8 12	9 04	9 59	8 30	7 33	10 07	9 45	7 30	8 82	8 60	8 16	6 45
14	Cooch Behar	9 40	8 25	13 10	9 30	8 77	8 90	6 2	5 52	7 87	4 06	6 75	6 32
	Total West Bengal	10 28	9 92	10 54	11 22	10 20	10 78	7 46	8 58	8 38	8 13	8 38	8 97

TABLE No. 9·12(II)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	District	3 Boro (Summer) (cleaned rice)						4 Total rice (cleaned rice)					
		1947-48	1948 49	1949 50	1950 51	1951 52	1952 53	1947 48	1948 49	1949-50	1950 51	1951-52	1952-53
1	24 Parganas	11 30	10 25	10 33	14 00	12 00	10 00	10 82	10 25	11 25	10 58	8 28	8·48
2.	Nadia	8 20	13 50	11 28	10 00	12 00	12 00	9 00	9 60	10 04	6 68	7 61	8 64
3	Murshidabad	10 90	11 29	11 28	10 00	9 00	10 00	8 24	9 66	8 00	10 34	8 48	9 81
4	Burdwan	7 50	20 00	20 12	20 00	12 00	12 00	10 48	10 12	10 53	13 12	11 48	11 75
5	Birbhum						7 00	9 00	10 55	10 17	13 33	12 21	13 38
6	Bankura	10 20	11 00	10 88	12 00	12 00	12 00	10 74	11 36	9 81	11 54	12 94	11 44
7	Midnapore	9 20	11 09	11 76	10 00	9 78	10 00	9 05	8 01	9 66	11 00	11 06	10 45
8	Hooghly	9 50	12 48	9 12	12 00	12 00	12 00	10 69	9 26	12 63	12 82	8 96	12 52
9	Howrah	6 80	9 50	7 48	12 00	12 00	12 00	10 44	10 28	10 77	12 08	10 02	12 37
10	Jalpaiguri						.	10 44	9 84	10 87	8 61	9 47	11 38
11	Darjeeling	13 00	13 5	11 28				10 90	12 06	12 27	11 85	13 20	14 32
12	Malda	10 20	12 50	11 28	9 00	9·40	10 00	9 05	9 56	9 07	9 77	7 94	9 99
13	West Dinajpur	6 80	11 30	7 07	6 00	5 00		8 24	8 88	9 52	8 41	7 44	9 50
14	Cooch Behar							8 56	7 50	12 24	8 56	8 32	8 16
	Total West Bengal	10 13	12 01	11 42	10 29	10 21	10 27	9 88	9 75	10 26	10 86	9 98	10 58

TABLE No. 9·12(III)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	5 Wheat						6. Barley					
		1947 48	1948 49	1949 50	1950-51	1951 52	1952-53	1947-48	1948 49	1949 50	1950-51	1951 52	1952-53.
1.	24 Parganas	7 47	8 00			5 13	8 68		..	..	8 89	8 71	9 14
2.	Nadia	8 19	8 43	6 32	8 81	8 53	8 80	7 16	11 47	6·80	8 87	9 20	9 18
3.	Murshidabad	5 22	6 77	6 29	9 41	9 76	9 23	8 02	9 08	6 90	9 49	9 32	9 00
4.	Burdwan	7 92	7 08	6 25	8 77	11 90	8 87	9 11	8 20	7 14	8 86	8 71	9 14
5.	Birbhum	7 47	6 61	6 35	7 82	6 93	8 68	6·75	5 40	6 66	8 75	8 71	9 14
6.	Bankura .	7 47	6 60	6 35	9 92	8 85	7 57	7 55	7 70	7 14	7 75	12 88	7 82
7.	Midnapore ..	7 29	7 76	6 32	8 76	5 90	7 53	.		5 00		8 71	9 14
8	Hooghly	7 47	7 45	6 67	8 75	8 28	8 68		13 50	5 00	9 00	8 71	9 14
9.	Howrah .	9 00								7 50			.
10	Jalpaiguri	4 50	9 00			8 23	4 47		6 75	5 00	9·00	7 54	3 80
11	Darjeeling .	9 00	9 07	9 00	6 67	6 00	7 00	13 50	6 75	7 50	7 00	7 00	6 00
12	Malda .	7 47	9 07	6 33	9 36	8 32	11 44	7 11	10 08	6 90	8 68	9 52	9 48
13	West Dinajpur ..	5 22	5 44	6 67	6 86	6 05	4 96	4 36	6 23	7 00	8 87	5 06	9 22
14.	Cooch Behar .	7 94	7 94	8 00	9 02	4 41	9 88	9 40	9 40	8 75	8 75	8 71	9 14
	Total West Bengal ..	6 44	7 32	6 38	9 02	8 49	9 03	7 32	9 29	6 90	8 98	8 95	9 14

TABLE No. 9·12(iv)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	7 Jowar						8 Bajra.					
		1947-48	1948-49	1949 50	1950-51	1951-52	1952 53	1947-48	1948 49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas				8 00	6 00				.			
2	Nadia		7 33	8 22	10 00	9 00	11 00						5 00
3.	Murshidabad	8 25	9 00	10 00	10 00	10 00	10 00	8 17	9 43	10 00	12 00	6 00	7 00
4.	Burdwan			8 16	8 00	7 00					7 00		
5	Birbhum	6 00	7 00	9 93	10 00	9 00	8 00	6 00	7 00	9 79	9 00		
6	Bankura												
7	Midnapore	6 00				6 00	6 00	6 00	8 00	7 62	6 00		
8	Hooghly			6 66	7 00	6 00	6 00						
9	Howrah						6 00						
10	Jalpaiguri												
11	Darjeeling												
12	Malda	6 60	5 75	9 93	5 00			8 20	5 00	10 00	10 00	10 00	12 00
13	West Dinajpur												
14	Cooch Behar						8 00						
	Total West Bengal	6 84	7 70	9 61	9 76	9 54	9 67	7 71	7 56	9 81	10 33	9 20	10 00

TABLE No. 9·12(v)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	9 Maize						10 Ragi					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	9 00	8 00	6 80	6 00	5 00	6 00						
2.	Nadia	7 00	6 00	9 07	6 00	6 00	9 00	5 00					
3	Murshidabad	9 12	9 00	10 20	9 00	10 00	10 00	6 50	6 50	7 89	10 00	8 00	
4	Burdwan	7 43	7 00	13 61	9 00	6 00	7 00						
5	Birbhum	6 00	7 00	9 79	10 00	9 00	8 00						
6	Bankura	5 81	5 81	6 28	7 00	6 00	6 00						.
7.	Midnapore	6 50	8 89	7 90	5 00	6 00	6 00	4 50					.
8	Hooghly	7 00	8 00	6 53	4 00	5 00	6 00						
9	Howrah	10 00			4 00								
10	Jalpaiguri	8 29	5 80	8 90	5 00	6 00	7 00						
11	Darjeeling	10 00	10 00	10 00	7 00	7 00	8 00	8 00	8 00	8 00	6 00	6 00	6 00
12	Malda	8 30	5 00	10 01	8 00	8 00	10 00		4 00				
13	West Dinajpur	5 75	5 75	6 80	6 00	10 00	9 00						
14	Cooch Behar												..
	Total West Bengal	9 47	9 14	9 79	7 06	7 15	8 29	7 79	7 69	8 00	6 06	6 01	6 00

TABLE No. 9·12(vi)

Average yield in maunds (per acre) of principal crops in differant districts of West Bengal

	Districts	11. Other cereals.						12 Gram					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	6 00	6 00	6 00				8 09	8 26	7 63	9 29	9 42	8 09
2	Nadia	4 43	4 43	4 43	6 00	6 00	9 00	4 87	8 84	7 60	9 60	10 10	11 28
3	Murshidabad	5 94	5 94	5 94	5 95	6 00	8 00	7 02	8 34	7 60	9 68	9 39	7 64
4	Burdwan							8 10	8 35	7 59	7 78	9 91	8 69
5	Birbhum	6 00	6 00	6 00	4 00	4 00		5 85	8 83	7 64	11 17	10 03	10 45
6.	Bankura	7 12	7 12	7 12	6 64	7 25	8 00	7 31	8 37	7 59	9 88	14 98	9 70
7	Midnapore	6 00	6 00	6 00	5 00	5 08	7 00	5 88	8 83	7 74	9 57	9 17	7 25
8.	Hooghly						10 00	6 83	8 89	7 58	7 56	7 21	8 11
9	Howrah	4 00	4 00	4 00	5 00	5 00		5 89	8 75	8 00	9 31	2 84	9 18
10	Jalpaiguri											9 14	9·18
11	Darjeeling						6 00						..
12.	Malda	5 00	5 00	5 00	4 11	3 88	4 67	6 44	8 33	7 59	8 73	6 09	8 05
13	West Dinajpur	5 00	5 00	5 00	4 00	4 00		6 54	8 37	7 50	9 50	4 38	10 24
14.	Cooch Behar	.			6 00	8 00	10 00	9 16	9 16	9 00	9 00	9 14	9 18
	Total West Bengal	6 13	6 13	6 13	5 79	5 84	7 55	6 21	8 34	7 61	9 51	9·17	9 23

TABLE No. 9·12(vii)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts.	13 Kharif Pulses						14 Rabi Pulses					
		1947-48	1948 49	1949 50	1950-51	1951 52	1952 53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1.	24 Parganas	5 50	5 50	4 00	5 00			6 07	6 82	5 00	5 48	6 21	4 64
2	Nadia	4 50		8 00				6 43	6 91	5 08	5 41	6 04	5 42
3.	Murshidabad	5 52	6 25	9 00	8 98	8 00	8 00	5 81	6 40	6 41	6 91	7 48	6 96
4	Burdwan	5 22	4 89	7 00	8 00	8 00	8 00	6 19	6 72	5 59	6 68	5 74	7 01
5	Birbhum	4 00	4 00	6 00	5 00	5 00	5 00	5 48	6 80	5 46	6 13	8 35	7 58
6	Bankura	4 54	2 94	7 00	5 00	5 00	5 00	6 58	7 48	5 11	6 14	7 03	5 12
7	Midnapore	3 17	5 46	5 00	5 00	7 45	7 14	6 01	7 28	4 90	5 93	5 98	6 67
8	Hooghly	6 00	5 80	4 00	4 00	4 00	6 33	6 29	6 87	5 39	5 77	6 01	5 05
9	Howrah	2 67	2 20	4 00	5 00	5 00	5 43	5 50	6 92	5 68	5 86	7 47	5 52
10	Jalpaiguri				8 00	8 08	7 78	6 84	7 65	4 06	5 20	6 23	3 77
11	Darjeeling	7 00	7 00		9 00	7 00	6 20	7 00	8 18	3 75	5 00	6 40	5 25
12	Malda							6 57	7 82	4 54	7 44	5 80	5 54
13	West Dinajpur			6 00				6 60	7 41	4 87	5 15	5 68	5 19
14	Cooch Behar	6 22	6 22	5 00	5 00	6 00	7 00	5 71	5 71	5 72	5 73	5 83	5 98
	Total West Bengal	5 32	5 08	7 17	7 02	7 26	7 25	6 16	6 92	5 28	6 30	6 25	5 99

TABLE No. 9·12(viii)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	15 Total Pulses including Gram						16 Linseed.					
		1947-48	1948-49	1949 50	1950 51	1951 52	1952-53	1947 48	1948-49	1949-50	1950-51	1951-52	1952 53
1	24-Parganas	6 13	6 86	5 15	5 95	6 07	5 14						3 53
2	Nadia	5 02	7 34	6 20	7 25	8 07	8 13	4 88	4 88	3 51	4 39	4 00	3 86
3	Murshidabad	6 10	7 01	6 84	7 07	8 35	7 21	4 42	5 40	3 40	4 59	5 00	4 56
4	Burdwan	6 44	7 10	6 23	7 02	7 62	7 47	3 77	5 40	3 33	4 40	5 00	3 53
5	Birbhum	5 55	7 24	6 09	8 26	6 13	8 58	4 88	4 88	3 53	4 50	5 00	4 63
6	Bankura	6 38	7 11	5 77	6 67	8 50	5 96	4 36	4 55	3 64	4 48	4 00	2 57
7	Midnapore	5 98	7 20	4 96	6 05	6 28	6 71	4 49	5 72	3 83	4 50	5 00	3 58
8	Hooghly	6 35	7 08	5 62	5 93	6 21	5 00			.		5 00	..
9	Howrah	5 57	6 29	5 73	6 06	7 27	5 58	3 77	3 90	3 83	4 40	5 00	
10	Jalpaiguri	6 84	7 65	4 06	5 68	6 64	4 50						3 53
11	Darjeeling	7 00	7 76	3 75	6 71	6 70	5 78						
12	Malda	6 55	7 47	4 85	7 58	5 87	6 02	4 36	4 88	3 48	4 50	5 00	1 58
13	West Dinajpur	6 50	7 56	4 58	5 62	5 27	6 06	4 88	5 20	5 20	4 50	5 00	3 53
14	Cooch Behar	5 86	5 86	5 70	5 64	5 49	6 27						.
	Total West Bengal	6 15	7 16	5 70	7 08	7 25	6 87	4 52	5 21	3 50	4 50	4 64	4 09

TABLE No. 9·12(ix)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	17 Rape and Mustard						18 Winter Til.					
		1947 48	1948-49	1949-50	1950-51	1951 52	1952-53	1947-48	1948-49	1949 50	1950-51	1951-52	1952-53
1.	24-Parganas	5 48	6 07	4 91	4 96	4 91	1 84						
2.	Nadia	4 42	5 48	4 90	4 95	4 91	4 79	4 07	3 90	5 83	6 00	5 00	6 00
3.	Murshidabad	4 42	5 48	4 92	7 54	7 80	11 79	4 90	5 60	6 45	6 00	5 00	6 00
4.	Burdwan	4 42	5 48	4 78	4 93	4 22	3 24	5 95	5 25	5 48	4 50	5 00	5 00
5	Birbhum	4 04	4 89	5 00	5 00	4 91	4 70	4 69	4 69	6 94	6 00	5 00	5 00
6.	Bankura	4 42	4 62	4 84	4 95	4 91	4 79	4 55	3 85	4 20	7 00	6 00	6 00
7	Midnapore	4 09	5 21	4 93	4 05	1 82	1 84	4 55	5 18	6 80	4 50	5 00	5 00
8	Hooghly	5 39	6 57	5 00	4 95	4 91	4 70	7 00					
9	Howrah	4 75	5 25	5 00	5 00	4 91	4 79						
10	Jalpaiguri	4 95	6 07	4 90	4 84	5 18	4 82	4 06	6 44				..
11	Darjeeling	6 60	6 60	5 00	4 95	4 01	6 45						..
12.	Malda	4 48	4 95	4 89	4 95	5 44	7 82	4 69	4 69	4 67	5 00	5 00	4 00
13	West Dinajpur	4 95	5 28	4 91	4 97	3 96	3 34	3 50	3 50	3 54	5 00	5 00	6 00
14.	Cooch Behar	4 54	4 54	4 33	4 38	3 76	5 60					.	
	Total West Bengal	4 72	5 35	4 79	5 08	4 86	5 28	4 76	4 63	5 21	6 19	5 88	5 60

TABLE No. 9·12(x)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	19. Summer Til						20. Total Til.					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948 49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	6 44	6 44	6 44				6 00	6 00	6 00			
2	Nadia							5 00	4 00	5 86	6 00	5 00	6 00
3.	Murshidabad	5 60	5 81	3 50	4 20	4 00	5 00	5 31	5 75	5 06	5 14	4 60	5 38
4.	Burdwan	6 44	5 81	5 95	5 60	5 00	6 00	6 31	5 62	5 86	5 40	5 00	5 77
5	Birbhum	4 69	4 69	4 69	3 50	5 00	4 00	4 75	4 67	5 22	4 28	5 00	4 56
6.	Bankura	5 25	5 25	5 25	4 90	6 00	5 00	4 86	4 49	4 52	6 40	6 00	5 59
7	Midnapore	3 50	5 04	5 25	5 46	7 00	7 00	4 04	5 10	5 65	5 13	6 22	6 53
8	Hooghly	3 50	3 50	4 20	4 20	6 00	5 00	5 50	4 00	4 20	4 13	6 00	5 00
9.	Howrah												
10	Jalpaiguri							4 00	6 00				
11.	Darjeeling												
12.	Malda							4 67	4 67	4 67	5 00	5 00	4 00
13	West Dinajpur							4 00	4 00	4 00	5 00	5 00	6 00
14	Cooch Behar												
	Total West Bengal	5 25	5 50	4 82	4 86	5 78	5 82	5 00	5 15	5 04	5 61	5 56	5 72

TABLE No. 9·12(xi)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	21 Other Oilseeds						22 Total Oilseeds					
		1947-48	1948 49	1949 50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952 53
1	24-Parganas	3 53	3 91	3 53	3 00	3 00	4 00	4 69	4 94	4 22	3 90	4 10	2 52
2	Nadia	4 25	3 91	3 49	5 00	5 00	5 00	4 57	5 19	4 10	4 62	4 33	4 29
3	Murshidabad	2 85	3 53	3 16	3 00	3 00	3 00	4 48	5 42	3 99	5 66	6 25	6 68
4	Burdwan				4 00	3 00	3 00	4 71	5 51	4 93	4 97	4 36	3 7[illegible]
5	Birbhum	3 19	3 19		3 00	4 00	4 00	4 78	4 73	4 28	4 56	4 95	4 65
6	Bankura	2 85	2 98	2 98	3 00	4 00	4 00	3 03	3 92	3 81	4 56	4 66	4 44
7	Midnapore	3 02	4 04	3 53	4 00	5 00	5 00	3 92	5 02	4 87	4 86	3 46	4 38
8	Hooghly	3 48		3 49	4 00	5 00	5 00	4 79	6 25	4 73	4 61	5 03	4 90
9	Howrah	3 19	3 19	3 19	4 00	4 00	4 00	4 00	4 33	3 60	4 80	4 53	4 31
10	Jalpaiguri	3 19	3 91	3 91		4 00		4 94	6 06	4 89	4 84	5 17	4 32
11	Darjeeling	4 25	4 25	4 25	4 00			6 42	6 42	4 92	4 81	4 92	6 46
12	Malda	2 85	2 12	3 53	4 00	4 00	4 00	4 36	4 84	4 61	4 88	5 42	6 69
13	West Dinajpur							4 94	5 27	4 90	4 97	3 97	3 34
14	Cooch Behar							4 54	4 54	4 33	4 33	3 76	5 00
	Total West Bengal	3 15	2 47	3 26	3 32	3 82	4 18	4 58	5 14	4 44	4 87	4 79	4 99

TABLE No. 9·12(xii)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts.	23. Potato						24 Sugarcane					
		1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
1	24-Parganas	94 60	82 20	93 10	104 50	89 16	94 00	420 6	515 3	427 6	440 00	450 00	630 38
2	Nadia	111 80	82 00	93 33	108 36	110 00	85 61	439 9	386 5	427 6	440 00	500 00	622 05
3	Murshidabad	95 83	82 35	83 85	107 44	90 52	96 80	429 6	427 7	400 0	440 00	450 00	503 81
4	Burdwan	94 76	82 81	106 01	96 70	89 84	131 17	475 9	427 7	474 0	393 47	600 00	513 25
5	Birbhum	95 44	82 38	95 62	102 17	92 56	89 69	388 3	345 8	216 4	474 57	450 00	616 60
6	Bankura	94·04	82·16	76 50	109 15	124 55	102 00	429 6	515 3	515 2	635 00	450 00	636 01
7.	Midnapore	95 27	82·81	86 23	91 57	82 36	86 94	378 0	479 2	515 2	458 36	500 00	564 85
8	Hooghly	94 80 (Hooghly and Howrah)	82 28	93 09	156 38	167 43	152 75	475 9	386 5	400 0	323 00	375 00	565 01
9	Howrah		82 22	93 12	117 10	146 33	135 80	517 2	515 4	515 2	440 00	450 00	566 07
10	Jalpaiguri	94 63 (Jalpaiguri and Darjeeling)	82 27	94 52	88 78	94 61	58 26	388 4	427 8	515 2	440 00	250 00	564 77
11	Darjeeling		72 92	94 09	60 68	62 85	60 00	517 2	515 5	500 0	480 00	400 00	470 62
12	Malda	93 13	82 35	92 92	56 83	94 61	75 47	429 6	427 7	400 0	440 00	440 00	400 51
13	West Dinajpur	94 17	82 35	93 00	69 95	57 85	116 88	388 3	427 8	508 0	440 00	440 00	564 77
14	Cooch Behar	104 33	104 33	106 53	106 53	127 96	85 61	326 5	326 5	350 0	265 00	300 00	564 77
	Total West Bengal	95 25	82·72	96 86	108 50	115 66	114·18	432 42	437 6	423·2	443·98	481 97	540 40

TABLE No. 9·12(xiii)

Average yield in maunds (per acre) of principal crops in different districts of West Bengal

	Districts	25. Jute (yield per acre in bales of 400 lbs each) 1947-48	1948 49	1949 50	1950-51	1951-52	1952 53
1.	24-Parganas	2 37	2 88	3 23	2 50	3 19	2 55
2	Nadia	2 72	3 19	2 43	2 00	2 01	2 41
3	Murshidabad	2 07	2 75	2 37	2 20	1 76	2 89
4	Burdwan	2 04	3 21	3 76	2 50	3 25	3 15
5	Birbhum	2 00	2 50	2 80	2 00	2 75	3 06
6	Bankura	1 33	2 00	2 94	1 50	1 10	2 98
7	Midnapore	2 20	2 39	3 50	2 20	3 23	2 99
8	Hooghly	2 98	2 08	2 82	2 20	3 28	3 77
9	Howrah	3 40	3 62	2 92	2 50	3 17	3 25
10	Jalpaiguri	2 30	2 38	2 81	2 60	3 61	2 14
11	Darjeeling	2 01	2 50	3 04	3 00	2 64	1 90
12	Malda	1 74	1 30	4 50	2 00	2 07	3 57
13	West Dinajpur	2 88	2 52	2 32	2 00	2 15	2 71
14	Cooch Behar	2 60	1 34	2 65	3 00	3 46	2 90
	Total West Bengal	2 44	2 59	2 92	2 30	2 60	2 88

TABLE No. 9·13

Average yield rate of different crops grown in West Bengal (from 1947-48 to 1954-55)

(See Table No A 40)

(Yield rates in maunds per acre)

Crop	1947 48	1948 49	1949 50	1950 51	1951 52	1952 53	1953 54	1954 55
Rice—								
Autumn (*)	7 46	8 58	8 38	8 13	8 38	8 97	9 13	8 69
Winter (*)	10 28	9 92	10 54	11 22	10 20	10 78	14 26	10 64
Summer (*)	10 13	12 61	11 42	10 29	10 21	10 27	11 26	10 38
Total (*)	9 88	9 75	10 26	10 86	9 98	10 53	13 48	10 40
Other cereals—								
Wheat (*)	6 44	7 32	6 38	9 02	8 49	9 03	7 86	8 66
Barley	7 32	9 29	6 00	8 98	8 95	9 14	7 62	8 17
Jowar	6 84	7 70	9 61	9 76	9 54	9 67	8 54	7 62
Bajra	7 71	7 56	9 81	10 33	9 20	10 00	10 75	6 50
Maize	9 47	9 14	9 79	7 06	7 15	8 29	8 67	7 74
Ragi	7 79	7 69	8 00	6 06	6 01	6 00	6 21	5 97
Other cereals	6 17	6 17	6 17	5 70	5 86	7 48	6 67	5 39
Total	9 82	9 71	10 19	10 77	9 90	10 47	13 27	10 30
Pulses—								
Gram (*)	6 21	8 34	7 61	9 51	9 17	9 23	8 40	9 46
Tur (arhar)	6 92	7 76	7 52	9 81	8 47	6 62	8 03	7 34
Kharif pulses	5 32	5 08	7 17	7 02	7 26	7 25	6 74	6 60
Rabi pulses (other than gram and tur)	6 03	6 89	5 21	6 18	6 15	5 95	5 86	5 84
Total	6 15	7 16	5 79	7 08	7 25	6 87	6 60	6 80
Other oil seeds—								
Til	5 00	5 15	5 04	5 61	5 56	5 72	5 24	5 17
Mustard (*)	4 72	5 35	4 79	5 08	4 86	5 28	4 00	4 56
Linseed	4 52	5 21	3 50	4 50	4 64	4 09	2 89	2 81
Other oilseeds	3 15	2 47	3 26	3 32	3 82	4 13	5 33	4 34
Total	4 58	5 14	4 44	4 87	4 79	4 99	3 86	4 12
Fibres—								
Jute (1) (*)	2 44	2 50	2 92	2 30	2 66	2 88	2 80	2 72
Mesta (1)	N A	N A	N A	N A	3 00	3 00	2 89	3 28
Sunnhemp (1)	N A	N A	1 62	1 64	1 86	1 88	1 64	1 45
Cotton (2)	0 75	0 5	0 5	0 25	0 23	0 27	0 26	0 31
Sugarcane	432 42	437 60	422 20	442 93	481 97	540 40	377 38	571 71
Potato	95 25	82 72	96 86	108 50	115 66	114 18	108 45	96 98
Tobacco	8 57	8 43	7 35	6 81	6 81	8 71	7 57	8 12
Ginger (dry)	N A	N A	N A	13 09	14 67	13 69	13 01	11·42
Chillies (dry)	N A	N A	N A	19 63	16 92	15 17	13 95	13 22

(1) In bales of 400 lbs each

(2) In bales of 392 lbs each

(*) See table B 9(b) for estimates of the years 1937-38 to 1946-47

N A.—Not available.

TABLE No. 9.14

Area under principal crops as percentages to the total cropped area

	1 Total cropped area (000) acres	2 Rice (winter, autumn and summer)		3 Jute		4 Wheat		5 Barley		6 Gram	
		Area in (000) acres	Percentage	Area in (000) acres	Percentage	Area in (000) acres	Percentage	Area in (000) acres	Percentage	Area in (000) acres	Percentage
Average 1936-37 to 1938-39 (1)	8,754.0	6,882.4	78.62	200.0	2.28	107.0	1.22	42.0	0.48	189.0	2.16
1939-40 (1)	8,961.0	7,035.0	78.51	174.0	1.94	115.0	1.28	43.0	0.48	206.0	2.30
1940-41 (1)	8,499.0	6,370.8	74.96	577.0	6.79	109.0	1.28	42.0	0.49	203.0	2.39
1941-42 (1)	9,580.0	7,570.1	79.02	181.0	1.89	111.0	1.16	43.0	0.45	211.0	2.20
1942-43 (1)	9,596.0	7,194.2	74.97	282.0	2.94	116.0	1.21	61.0	0.64	272.0	2.84
1943-44 (1)	11,636.7	9,381.7	80.28	241.0	2.06	117.0	1.00	62.0	0.53	271.0	2.32
1944-45 (1)	13,038.8	10,224.8	78.42	194.0	1.49	103.0	0.79	74.0	0.57	318.0	2.44
1945-46 (1)	12,028.1	9,314.1	77.44	203.0	1.69	118.0	0.98	64.0	0.53	276.0	2.29
1946-47 (1)	12,762.8	9,730.1	76.31	152.0	1.19	101.1	0.79	59.1	0.46	240.9	1.89
1947-48	13,183.3	9,659.0	73.27	266.4	2.02	90.7	0.69	58.0	0.44	243.4	1.85
1948-49	13,024.8	9,458.9	72.62	349.0	2.69	94.6	0.73	57.2	0.44	255.4	1.96
1949-50	13,011.0	9,767.6	75.07	498.0	3.83	88.7	0.68	71.9	0.55	273.9	2.11
1950-51	13,234.2	9,802.6	74.07	650.9	4.92	124.6	0.94	74.6	0.56	316.0	2.39
1951-52	13,292.9	9,488.1	71.38	876.1	6.59	130.3	0.98	109.4	0.82	187.7	1.67
1952-53	14,044.6	10,206.9	72.68	819.8	5.84	106.4	0.76	72.9	0.52	410.0	2.92
1953-54	14,308.2	10,548.2	73.72	534.7	3.74	133.1	0.93	123.7	0.86	486.2	3.40
1954-55	13,785.8	9,832.7	71.33	550.6	3.99	141.0	1.02	106.7	0.77	438.1	3.18

	7 Sugarcane		8 Rape and mustard		9 Linseed		10 Other crops	
	Area in (000) acres	Percentage	Area in (000) acres	Percentage	Area in (000) acres	Percentage	Area in (000) acres	Percentage
Average 1936-37 to 1938-39 (1)	57.0	0.65	133.0	1.52	71.0	0.81	1,072.6	12.26
1939-40 (1)	61.0	0.68	139.0	1.55	88.0	0.98	1,100.0	12.28
1940-41 (1)	65.0	0.76	136.0	1.60	77.0	0.91	919.2	10.82
1941-42 (1)	58.0	0.61	130.0	1.36	80.0	0.84	1,195.9	12.47
1942-43 (1)	53.0	0.55	172.0	1.79	77.0	0.80	1,368.8	14.26
1943-44 (1)	58.0	0.50	150.0	1.28	81.0	0.69	1,325.0	11.34
1944-45 (1)	58.0	0.44	137.0	1.05	73.0	0.56	1,857.0	14.24
1945-46 (1)	67.0	0.56	131.0	1.09	64.0	0.53	1,791.0	14.89
1946-47 (1)	60.9	0.48	152.6	1.20	48.4	0.38	2,208.7	17.30
1947-48	63.3	0.48	181.3	1.38	41.6	0.32	2,579.0	19.55
1948-49	65.9	0.51	172.8	1.33	44.2	0.34	2,525.9	19.38
1949-50	57.5	0.44	201.5	1.55	60.7	0.47	1,991.2	15.30
1950-51	52.6	0.40	221.1	1.67	65.8	0.50	1,920.0	14.55
1951-52	46.3	0.35	217.8	1.64	44.9	0.34	1,892.3	14.23
1952-53	52.3	0.37	226.2	1.61	63.9	0.45	2,086.2	14.85
1953-54	46.9	0.33	190.9	1.33	70.4	0.49	2,174.1	15.20
1954-55	56.8	0.41	205.1	1.49	80.2	0.58	2,374.4	17.23

TABLE No. 9.15(a)

Percentage variation of population in different districts of West Bengal

Districts	1921-31	1931-41	1941-51
Calcutta	+10.58	+84.85	+20.85
24-Parganas	+9.56	+27.03	+25.61
Nadia	+1.48	+16.40	+36.25
Murshidabad	+11.97	+19.69	+4.59
Burdwan	+9.82	+19.99	+15.92
Birbhum	+11.25	+10.63	+1.77
Bankura	+9.00	+16.00	+2.30
Midnapore	+4.97	+13.99	+5.28
Hooghly	+3.16	+23.65	+12.82
Howrah	+10.17	+35.02	+8.12
Jalpaiguri	+6.50	+14.41	+8.14
Darjeeling	+13.05	+17.75	+18.30
Malda	+4.99	+17.19	+11.05
West Dinajpur	+6.84	+11.36	+23.49
Cooch Behar	−0.27	+8.45	+4.73
West Bengal	+7.70	+23.63	+13.61

(1) Excluding estimates of Cooch Behar district. On the basis of available records, the estimates have been calculated out after the partition of the State and as such are rough.

TABLE No. 9·15(b)

Number of birth (live), death and corresponding increase in population, 1946-54 (*) in West Bengal

Year	Number of births (live)		Number of deaths		Increase in population	
	Actual	Average per month	Total	Infant (under one year)	Actual	Average daily rate
1946	524,364	43,697	414,684	75,144	109,680	300 5
1947	427,752	35,646	387,168	61,956	40,584	111 2
1948	453,504	37,797	385,272	61,980	68,292	187 1
1949	477,816	39,818	372,564	63,444	105,252	288 4
1950	434,256	36,188	358,884	56,373	75,372	206 5
1951	530,880	44,240	314,220	58,140	216,660	593 6
1952	565,176	47,098	265,440	56,304	299,736	821 2
1953	577,398	48,116	260 187	54,302	317 211	869 1
1954	594,095	49,508	238,964	51,609	355,131	973 0

TABLE No. 10·1

Livestock population (number in thousand heads) in different countries (†)

Country	Year of Census	Cattle	Pig	Sheep	Horse	Mule	Ass
World(1)		698,000	281,000	676,000	60,600	14,900	.
Canada	1950 51	8,292	5,418	1,268	1,307		
United States (on farm)	1950 51	84,179	62,852	30,635	4,093	2,074	.
Brazil	1950 51	52,655	26,059	13,804(2)	6,937	3,101	1,572
Denmark	1950-51	3,110	3,189	59	465		.
Finland	1949 50	1,757	449	1,207	400		
France	1950 51	15,801	6,824	7,510	2,397	91	104
Western Germany	1950 51	11,150	11,890	1,642	1,570(3)		
Eastern Germany	1950-51	3,600	5,681	1,087	695(4)		
Italy	1950 51	8,376	3,510	10,141	768	393	778
Netherlands	1950 51	2,671	2,274	360	250(5)		
United Kingdom	1950-51	10,150	3,507	15,314	478		
Yugoslavia	1950 51	4,729	3,911	10,273	1,095		152
Australia	1950 51	15,229	1,134	115,596	999		
New Zealand	1950 51	5,097	572	34,786	184		
Turkey	1950-51	10,216		23,083	1,140	109	1,638
Pakistan	1949-50	24,296			470		913
India	1950-51	155,251	4,173		1,527	59	1,226

TABLE No. 10·2

Livestock population in India and West Bengal in 1951 (in thousands) (‡)

		India	West Bengal	Percentage
1	Cattle	155,099	10,385	6 7
2	Buffaloes	43,350	619	1 4
3	Sheep	38,828	480	1 2
4	Goat	47,078	4 031	8 6
5	Horses and ponies	1,534	25	1 6
6	Mules	60	(a)	
7	Donkeys	1,239	1	
8	Camels	629		
9	Pigs	4 420	298	6 7
10	Total Livestock	292,218	15,840	5 4
11	Fowls	67,135	6,234	9 3
12	Ducks	6,264	3,043	48 6
13	Total Poultry	73,399	9,278	12 6

(*) *Source* Directorate of Health Services, West Bengal

(†) *Source* Statistical Year Book, 1952, Table No 27 (prepared by Statistical Office of the United Nations, Department of Economic Affairs)

(1) Excluding U S S R but includes pigs for other countries not mentioned in the table

(2) Figures for 1948-49

(3) Excluding Army horses

(4) Figures for 1949-50 and excluding Army horses

(5) Horses used in Agriculture

(‡) *Source* Livestock Census, 1951

(a) =less than 500.

TABLE No. 10·3(i)

Number of livestock in different districts of West Bengal, 1945 and 1951(*)

1 Cattle

Districts	Cow 1945	Cow 1951	Bulls and bullocks 1945.	Bulls and bullocks 1951	Young stock 1945.	Young stock 1951	Total 1945	Total 1951
Calcutta	37,173	15,355	4,188	988	27,875	10,940	69,236	27,293
24-Parganas	341,485	453,855	382,289	568,979	272,293	549,062	996,067	1,571,896
Nadia	181,727	155,584	167,560	173,899	122,987	180,680	472,274	510,163
Murshidabad	227,744	186,332	253,608	260,160	165,723	250,338	647,075	696,830
Burdwan	405,387	355,898	274,582	289,195	246,332	428,427	926,301	1,073,520
Birbhum	230,624	183,223	262,977	230,949	155,386	238,447	648,987	652,619
Bankura	291,400	268,268	247,104	252,753	212,002	283,365	750,506	804,386
Midnapore	522,575	525,697	653,030	743,428	354,537	549,850	1,530,148	1,818,975
Hooghly	180,528	192,229	175,714	213,028	135,526	242,933	491,768	648,190
Howrah	86,061	89,249	61,445	72,902	61,049	101,253	208,555	263,404
Jalpaiguri	97,761	168,266	132,215	101,540	126,852	239,218	356,828	509,024
Darjeeling	47,016	42,041	33,857	34,803	45,225	69,056	126,098	145,900
Malda	117,650	120,079	175,847	195,275	87,515	158,124	381,012	474,078
West Dinajpur	135,174	142,334	187,401	213,299	105,263	173,975	427,838	529,608
Cooch Behar	197,320	151,116	222,974	207,728	188,442	210,413	608,736	569,257
Total West Bengal	3,099,625	3,050,126	3,234,797	3,648,936	2,307,007	3,686,081	8,641,429	10,385,143

2 Buffaloes.

Districts	Cows 1945	Cows 1951	Bulls and bullocks 1945	Bulls and bullocks 1951	Young stock 1945	Young stock 1951	Total 1945	Total 1951
Calcutta	23,832	10,305	4,438	473	17,136	3,815	45,406	14,593
24 Parganas	14,442	15,009	12,532	19,071	7,605	14,526	34,579	48,606
Nadia	2,992	3,700	31,798	26,949	2,105	5,003	36,895	35,652
Murshidabad	5,490	5,345	45,833	42,152	3,707	8,214	55,030	55,711
Burdwan	11,708	11,825	60,493	52,757	6,640	16,698	78,841	81,280
Birbhum	6,635	4,256	27,699	19,155	3,915	5,512	38,249	28,923
Bankura	35,872	27,164	54,862	50,838	24,924	25,667	115,658	103,669
Midnapore	17,735	14,970	23,779	20,079	10,537	13,711	52,051	48,760
Hooghly	1,774	2,208	8,401	7,530	943	2,267	11,118	12,005
Howrah	2,606	3,494	939	97	892	2,247	4,437	5,838
Jalpaiguri	16,640	9,509	33,548	33,069	8,738	16,674	58,926	59,252
Darjeeling	2,859	2,147	6,766	7,274	2,132	3,060	11,757	12,489
Malda	5,922	5,501	19,882	28,644	3,651	6,631	29,455	40,776
West Dinajpur	2,938	3,113	54,270	36,325	1,229	3,921	58,437	43,359
Cooch Behar	7,626	7,616	10,192	12,667	3,798	7,964	21,621	28,247
Total West Bengal	159,071	126,162	395,437	357,080	97,952	135,919	652,460	619,160

TABLE No. 10·3(ii)

Number of livestock in different districts of West Bengal, 1945 and 1951(*)

Districts	Sheep 1945	Sheep 1951	Goats 1945	Goats 1951	Horses and ponies 1945	Horses and ponies 1951	Pigs 1945	Pigs 1951	Others 1945	Others 1951	Total 1945	Total 1951
Calcutta	383	1 644	16 795	15 316	2 402	613	300	2 234	178	25	134,760	61,718
24 Parganas	11 071	51 553	328 151	648 808	2,041	2,261	7,210	10,014	88	258	1,380,107	2,342,306
Nadia	30 488	32 773	149,289	133,058	1 311	1 329	1 905	4 732	17	11	692,269	717,718
Murshidabad	40 355	51,898	300,811	357 320	3,131	4 916	1,719	7,779	17	51	1,048,139	1,174,505
Burdwan	64 707	87 060	265 670	412 476	934	1 149	11,410	67,742	189	267	1,848,042	1 723,404
Birbhum	70 220	84 457	246,556	277,303	705	1,749	13 706	37,141	84	39	1,018,687	1,082,231
Bankura	53,400	69,417	202 524	305 344	173	110	12 646	43,427	2	4	1,224,969	1 380,366
Midnapore	38,203	56,630	353,144	535,576	476	334	3,351	26 595	47	60	1,977 420	2 486,930
Hooghly	2 018	2,855	189,569	275,882	162	109	1,435	8 532	43	51	696,113	947,624
Howrah	1,074	1,006	70,377	119,532	281	65	282	531	45	49	294,051	390,425
Jalpaiguri	966	6,513	117,530	217 155	1,545	1 774	5,050	30,041		133	540,854	918,892
Darjeeling	2,973	4,134	66,213	101,430	2,111	1 967	6,440	12,775	17	35	215,609	278,730
Malda	21,980	23 303	143,506	242,055	13 151	5,243	4,801	15,316		1	593,905	800,772
West Dinajpur	4,578	5,413	148,024	204,058	2,254	2,741	8,204	19,746	9	18	649,344	804 938
Cooch Behar	1,664	1,634	126,714	126,089	1,180	961	1,479	2,430	26		701,420	728,618
Total West Bengal	345,180	480,290	2,823,873	4,031,402	31,947	25,330	80,187	298,035	762	997	12,575,489	15,840,857

(*)*Source* Livestock Census Report of West Bengal, 1951.

TABLE No. 10·3(ii)—*contd.*

Number of livestock in different districts of West Bengal, 1945 and 1951—concld. (*)

Districts	Fowls		Ducks		Total	
	1945	1951	1945	1951	1945	1951
Calcutta	22 661	29,966	6,444	6,216	29,105	36,182
24-Parganas	676,438	1,054,394	443,438	891,672	1,119,875	1,946,066
Nadia	403,682	281,026	63,572	47,959	467,254	328,985
Murshidabad	640,796	736,883	98,081	161,168	738 877	898,051
Burdwan	427,863	578 184	246,528	380,807	674,391	958,991
Birbhum	374 617	415 307	212,500	271,065	587,126	686 372
Bankura	279 012	347,130	126,784	258,209	406,646	605,339
Midnapore	485,007	731,823	154,413	254,571	639 510	986,394
Hooghly	224,280	310 045	163 806	250 258	388,155	560 308
Howrah	120 543	163 447	98,379	111,910	217,922	275,357
Jalpaiguri	249,718	464,426	62 092	134 116	312 710	598,542
Darjeeling	180 588	337 827	8,688	11 382	108,276	349,209
Malda	242 645	348 865	38 267	28,096	280,912	376,961
West Dinajpur	351 060	295 333	163 414	128 970	514,483	424,303
Cooch Behar	184 414	140,137	41,515	106 816	225,929	246 953
Total West Bengal	4,882,332	6,234,493	1,918,840	3,043,215	6,801,171	9,278,008

TABLE No. 10·4

Livestock population in West Bengal since 1920 (*)

	1920	1926	1930	1940	1945(1)	1951(1)
1 *Cattle*—						
(i) Male ..	3,193,241	3,431,102	3,349,348	2,775 406	3,234,797	3,648,936
(ii) Female ..	2,901,895	3,160,546	3,042,178	3,004,169	3,099,625	3,050,126
(iii) Young stock	2,224,743	2 557,618	2,423,126	2,129,896	2,307,007	3,686,081
Total	8,319,879	9,149,266	8,814,652	7,909,471	8,641,429	10,385,143
2. *Buffaloes*—						
(i) Male ..	283,820	308,283	325,078	336,432	395,437	357,080
(ii) Female	130,159	128,184	130,017	129,778	159,071	126,162
(iii) Young stock	72,112	70,401	66,255	73,312	97,952	135,919
Total	486,091	506,868	521,350	539,522	652,460	619,161
3. Bovine [total of (1) and (2)]	8,805,970	9,656,134	9,336,002	8,448,993	9,293,889	11,004,304
4. Sheep ..	341,892	495,380	401,982	364,534	345,130	480,290
5 Goat	1,521,037	2,868,205	2,293,529	2,624,560	2,823,873	4,031,402

TABLE No. 10·5

Production of livestock products in some principal States of India (‡)

States	Total milk (in lakh mds)	Ghee and butter (in lakh mds)	Total meat (in thousand tons)	Total hides (in lakh Nos)	Total skins (in lakh)	Total wool (in thousand lbs)	Total eggs (in lakhs)
1	2	3	4	5	6	7	8
Assam	32·27	0·50	4·52	4·4	1 86		735
Bihar	409 58	10 09	32 32	18 6	21 35	562	1,511
Bombay	338 56	10 59	70 37	15 9	55 20	4,785	2,024
M. Pradesh	152 07	5 38	14 51	23 7	11 94	402	705
Madras	588 95	12 91	124 45	62 0	86 75	4,191	2,629
Orissa	96·58	1 81	4 07	10 7	3·95	1	630
Punjab	610 92	22 91	6 99	4 7	8 88	2,154	159
U Pradesh	1,226 36	24 52	72 98	17 0	51 44	4,164	530
West Bengal	166 84	2 14	35 16	15 6	16 40	892	1,944
Madhya Bharat	155 94	3 68	5·37	5 1	6 86	574	168
Rajasthan	521 73	19·53	22 93	5 9	30 61	21,057	27

(*) *Source* Livestock Census Report of West Bengal, 1951.

(1) Including Cooch Behar.

(‡) *Source* · Indian Livestock Statistics, 1952-53, issued by the Ministry of Food and Agriculture, Government of India, Economic and Statistical Adviser.

TABLE No. 10·6

Production and Per Capita Consumption of Milk and Milk Products in Different Countries (*)

	Country	Estimated milk yield per cow per day (in lbs)			Per capita consumption of milk, butter, cheese and margarine per day							
		Prewar	1950-51	Column (3) as per cent of column (2)	Milk (in oz)		Butter in (oz)		Cheese (in oz)		Margarine (in oz)	
					Prewar	1950-51	Prewar	1950-51	Prewar	1950-51,	Prewar	1950-51
	1	2	3	4	5	6	7	8	9	10	11	12
1	Belgium	19 26	20 50	106	7 81	9 45	0 79	1 00	0 35		0 64	0 75
2	Denmark	10 38	21 10	109	16 10	16 39	0 84	0 68	0 55	0 59	2 08	1 56
3	Finland	11 46	13 02	114	25 07	23 53	1 13	1 51	0 21	0 16	0 37	0 40
4	France	11 17	11 69	105	8 20	8 78	0 51	0 60	0 62	0 57	0 08	0 14
5	Germany (W)	14 95	15 07	101	12 24	11 47	0 85	0 62	0 34	0 39	0 58	0 92
6	Ireland	10 58	11 99	113	18 59	16 20			0 03	0 10		
7	Netherlands	20 98	22 91	109	14 08	18 90	0 54	0 28	0 64	0 55	0 68	1 65
8	Norway	10 26	12 60	123	18 18	24 39	0 09	0 47	0 53	0 84	1 80	2 03
9	Sweden	14 41	17 54	122	21 11	22 86	1 06	1 13	0 54	0 63	0 90	1 22
10	Switzerland	17 18	17 72	103	23 24	22 95			0 85	0 84		
11	United Kingdom	15 28	16 73	109	9 54	15 33	1 00	0 64	0 30	0 45	0 43	0 60
12	Germany (E)	14 95	12 51	84								
13	Canada	10 76	12 48	116	17 84	18 61	1 40	0 99	0 16	0 20		0 33
14	United States	11 75	14 47	123	14 75	16 87	0 73	0 43	0 23	0 33	0 12	0 29
15	Australia	10 31	11 03	107	10 60	13 40	1 43	1 32	0 18	0 30	0 23	0 24
16	Newzealand	13 41	15 37	115	18 42	21 60	1 87	1 74	0 19	0 25	0 13	

TABLE No 10·7

Percentage Distribution of Utilization of Milk (*)

Country	Period	Liquid consumption	Manufacture					Total
			Butter	Cheese	Preserved milk	Other products	Feed and other uses	
Belgium	Prewar	20 5	64 1	2 5	0 5		12 4	100 0
	1950	26 4	58 2	2 2	0 4		12 8	100 0
Denmark	Prewar	11 8	80 0	3 2	0 5	0 2	4 1	100 0
	1950	13 4	72 3	7 7	2 4		4 2	100 0
Finland	Prewar	38 0	48 0	4 0			10 0	100 0
	1950	38 4	52 0	6 3			3 3	100 0
West Germany	Prewar	35 0	48 4	3 0	1 1		11 6	100 0
	1950	35 3	45 8	5 0	1 9	1 3	10 7	100 0
Ireland	Prewar	18 1	67 2	0 6	2 4		11 7	100 0
	1950	20 7	57 7	1 4	6 6		13 6	100 0
Netherlands	Prewar	24 0	45 3	10 9	6 0	1 0	3 2	100 0
	1950	27 7	30 0	21 7	8 2	1 5	4 9	100 0
Norway	Prewar	30 2	40 9	9 0	0 0	2 6	7 4	100 0
	1950	53 4	27 0	9 0	1 0	.	7 8	100 0
Switzerland	Prewar	38 5	22 0	20 7	0 3		18 0	100 0
	1950	42 3	15 9	25 1	1 0		15 1	100 0
United Kingdom	Prewar	56 2	14 0	5 7	5 5	5 6	12 1	100 0
	1950	76 1	5 8	5 6	5 1	0 6	6 8	100 0
Canada	Prewar	30 3	53 0	8 8	2 0	0 9	5 0	100 0
	1950	35 6	44 0	6 9	4 5	2 6	6 4	100 0
United States	Prewar	41 3	41 5	6 1	4 4	4 1	2 6	100 0
	1950	47 4	27 0	9 5	5 6	7 6	2 7	100 0
Australia	Prewar	13 8	79 5	4 2	2 5			100 0
	1950	21 2	64 1	8 0	6 7			100 0
Newzealand	Prewar	6 9	69 5	18 3	0 6		4 2	100·0
	1950	9 1	65 0	20 3	1 7		3 9	100 0

(*) *Source* F A O Commodity series bulletin No 24

TABLE No. A 1

Area, production and yield rate of Aman rice in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas ..	1,449.1	777.8	14.61	1,393.5	491.0	9.59	1,420.8	620.9	11.82	1,456.3	716.9	13.40			
(2) Nadia	208.4	92.2	12.04	233.6	86.5	10.08	254.2	92.7	9.93	214.5	61.3	7.78			
(3) Murshidabad	488.7	250.6	13.96	520.7	241.6	12.63	523.0	199.8	10.40	457.4	175.3	10.43			
(4) Burdwan	1,084.2	685.5	17.21	1,019.4	528.0	14.10	1,026.5	545.3	14.46	1,022.5	477.4	12.71			
(5) Birbhum	733.3	436.7	16.21	676.9	329.0	13.23	707.4	368.8	14.19	657.2	323.8	13.41			
(6) Bankura	784.8	448.0	15.54	682.3	277.5	11.07	728.1	322.9	12.07	703.7	347.2	13.43			
(7) Midnapore	1,901.5	1,010.1	14.46	1,885.8	538.3	7.77	1,945.6	780.5	10.92	1,920.0	880.3	12.48			
(8) Hooghly	444.2	271.4	16.63	411.8	187.1	12.37	369.9	167.8	12.35	440.5	211.8	13.09			
(9) Howrah	227.2	104.7	12.54	204.9	81.5	10.83	214.3	86.5	10.99	199.2	78.3	10.70			
(10) Jalpaiguri	410.4	147.8	9.80	391.8	159.9	11.11	433.1	160.2	10.07	434.4	189.3	11.86			
(11) Darjeeling	70.7	28.3	10.88	70.9	39.9	15.31	73.7	26.4	9.75	68.0	25.7	10.30			
(12) Malda	287.1	116.5	11.05	241.8	77.0	8.67	266.6	81.5	8.32	287.1	169.8	10.41			
(13) West Dinajpur	508.7	187.4	10.03	510.0	199.4	10.64	515.5	156.6	8.27	520.8	199.2	10.41			
(14) Cooch Behar	335.6	122.8	9.96	300.8	104.9	9.49	328.9	108.9	9.01	369.1	145.2	10.71			
Total West Bengal	8,933.9	4,679.8	14.26	8,544.2	3,341.6	10.64	8,816.6	3,718.8	11.48	8,750.7	3,941.5	12.26			

TABLE No. A·2

Area, production and yield rate of Aus rice in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons).	Yield rate (mds./ acre
(1) 24-Parganas ..	116.0	43.7	10.25	97.1	36.0	10.10	71.0	25.7	9.87	68.1	25.6	10.23			
(2) Nadia	279.7	98.9	9.63	248.9	86.4	9.45	241.9	94.5	10.63	235.4	70.3	8.13			
(3) Murshidabad	261.4	57.9	6.03	196.4	63.1	8.75	175.7	53.2	8.24	164.0	44.2	7.33			
(4) Burdwan	61.3	25.1	11.13	64.2	32.7	13.86	48.8	21.5	11.98	46.2	19.8	11.65			
(5) Birbhum	101.0	53.8	14.51	71.1	31.2	11.96	44.3	19.8	12.16	119.9	53.0	12.03			
(6) Bankura	113.4	37.9	9.10	83.5	22.8	7.42	130.3	40.0	8.36	104.9	28.4	7.37			
(7) Midnapore	127.8	41.2	8.78	92.8	14.9	4.37	127.1	33.9	7.27	124.7	30.6	6.69			
(8) Hooghly	34.7	15.7	12.35	26.8	10.2	10.37	20.6	8.4	11.09	21.3	10.6	13.49			
(9) Howrah	3.0	1.6	14.21	3.9	1.0	7.23	2.7	1.0	9.81	3.8	1.0	7.23			
(10) Jalpaiguri	48.2	14.2	8.01	45.0	11.0	6.66	57.5	13.2	6.25	38.1	6.1	4.39			
(11) Darjeeling	0.8	0.2	6.29	2.3	0.5	5.65	1.8	0.4	6.50	1.4	0.3	5.79			
(12) Malda	184.1	71.1	10.51	116.8	24.2	5.64	148.2	39.5	7.25	117.2	33.7	7.82			
(13) West Dinajpur	88.5	29.3	9.01	79.5	31.3	10.70	83.4	30.8	10.06	82.7	24.2	7.96			
(14) Cooch Behar	150.0	36.1	6.55	118.5	32.8	7.53	142.7	27.4	5.23	140.4	27.6	5.35			
Total West Bengal	1,569.9	526.7	9.13	1,246.8	398.1	8.69	1,296.0	409.3	8.60	1,268.1	375.4	8.06			..

TABLE No. A·3

Area, production and yield rate of Boro rice in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954 55 Area ('000 acres)	1954 55 Production ('000 tons)	1954 55 Yield rate (mds / acre)	1955 56 Area ('000 acres)	1955 56 Production ('000 tons)	1955 56 Yield rate (mds / acre)	1956 57 Area ('000 acres)	1956 57 Production ('000 tons)	1956 57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	0 3	0 1	10 75	0 3	0 1	10 00	0 3	0 1	10 00	0 4	0 2	12 00			
(2) Nadia	1 7	0 7	10 83	0 8	0 4	12 50	1 1	0 6	15 00	1 0	0 5	13 00			
(3) Murshidabad	3 4	1 5	12 00	3 5	1 5	12 00	5 3	2 3	12 00	4 2	1·4	9 00			
(4) Burdwan	1 2	0 6	13 00	2 0	0 9	12 50	2 1	1 0	12 50	3 1	1 4	12 55			
(5) Birbhum	0 3	0 1	7 00	0 2	0 1	8 00	0 2	0 1	8 50	0 2	(a)	6 65			
(6) Bankura	0 2	0·1	12 00	0 2	0 1	12 00				0 4	0 1	10 00			
(7) Midnapore	8 3	3 2	10 50	6 9	2 3	9 00	4 9	1 6	9 00	5 0	2 8	15 47			
(8) Hooghly	3 5	1 7	13 00	3 0	1 3	12 00	2 5	0 9	10 00	3 0	1 1	10 00			
(9) Howrah	2 3	1 1	13 06	1 5	0 7	12 00	1 0	0 4	10 00	3 0	1 1	10 00			
(10) Jalpaiguri															
(11) Darjeeling															
(12) Malda	23 1	9 3	11 00	23 2	8 5	10 00	23 9	10 6	12 00	24 0	11 0	12 50			
(13) West Dinajpur	0 1	(a)	6 50	0 1	(a)	8 00	0 1	(a)	7 00	0 1	(a)	7 00			
(14) Cooch Behar															
Total West Bengal	44 4	18 4	11 26	41 7	15 9	10 38	41 4	17 6	11 54	44 4	19 8	12 11			

TABLE No. A·4

Area, production and yield rate of Total rice, (Aus rice, Aman rice and Boro rice) in the districts of West Bengal

Districts.	1953 54. Area ('000 acres)	1953 54. Production ('000 tons)	1953 54. Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	1,565 4	821 6	14 29	1,490 9	527 1	9 62	1,501 1	646 7	11 73	1,524 8	742 7	13 26	..		
(2) Nadia	489 8	191 8	10 66	483 3	173 3	9 76	497 2	187·8	10 28	450 9	132 1	7 97			
(3) Murshidabad	753 5	310 0	11 20	720 6	306 2	11 57	704 0	255 3	9 87	625 6	220 9	9 61			
(4) Burdwan	1,146 7	711 2	16 88	1,085 6	561 6	14 08	1,077 4	567 8	14 35	1,071 8	498 6	12 66			
(5) Birbhum	834 6	490 6	16 00	748 2	360 3	13·11	751 9	388 7	14 07	777 3	376 9	13 20			
(6) Bankura	898 4	486 0	14 72	766 0	300 4	10 67	858 4	362 9	11 51	809 0	375 7	12 64			
(7) Midnapore	2,037 6	1,054·5	14 09	1,985 5	555 5	7 62	2,077 6	816 0	10 69	2,049 7	913 7	12 14			
(8) Hooghly	482 4	288 8	16 30	441 6	198 6	12 25	393 0	177 1	12 27	464 8	223 5	13 09			
(9) Howrah	232·5	107 4	12 57	210 3	83 2	10 77	218 0	87 9	10 98	206 0	80 4	10 63			
(10) Jalpaiguri	458 6	162 0	9 62	436 8	170 9	10 65	490 6	173 4	9 62	472 5	195 4	11 26			
(11) Darjeeling	71 5	28 5	10·85	73 2	40 4	15 00	75 5	26 8	9 66	69·4	26 0	10 21			
(12) Malda	494 3	196 9	10 84	381 8	109 7	7 82	438 7	131 6	8 17	428 3	154 5	9 82			
(13) West Dinajpur	597·3	216 7	9 88	589 6	230 7	10 65	599 0	187 4	8 52	603 6	223 5	10 08			
(14) Cooch Behar	485 6	158 9	8 96	419 3	137 7	8 94	471 6	136 3	7 87	509 5	172 8	9 23			
Total West Bengal	10,548 2	5,224 9	13 48	9,832 7	3,755 6	10 40	10,154 0	4,145 7	11 11	10,063 2	4,336 7	11 73	..	.	..

(a) Below 50 tons

TABLE No. A·5

Area, production and yield rate of Wheat in the districts of West Bengal

Districts	1953 54 Area ('000 acres)	1953 54 Production ('000 tons)	1953 54 Yield rate (mds / acre)	1954 55 Area ('000 acres)	1954 55 Production ('000 tons)	1954 55 Yield rate (mds / acre)	1955 56 Area ('000 acres)	1955 56 Production ('000 tons)	1955 56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres).	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24 Parganas	0 2	0 1	8 41	0 2	0 1	8 39	0 7	0 2	7 56	0 3	(a)	4 20			
(2) Nadia	14 0	3 6	7 04	10 4	2 8	7 30	11 0	3 2	8 02	24 8	2 4	2 65			
(3) Murshidabad	52 2	12 1	6 31	42 1	14 4	9 35	51 9	17 3	9 10	79 5	9 8	3 37			
(4) Burdwan	6 6	2 4	9 84	6 9	3 2	12 74	8 7	2 9	8 99	14 4	2 2	4 20			
(5) Birbhum	13 2	4 8	10 00	14 6	5 3	9 84	19 1	5 1	7 24	19 7	2 0	2 79			
(6) Bankura	12 4	3 8	8 31	14 1	4 1	8 00	12 7	3 8	8 10	11 7	1 5	3 44			
(7) Midnapore	1 7	0 5	8 41	1 3	0 4	7 85	2 9	0 6	5 58	0 9	0 1	3 82			
(8) Hooghly	0 7	0 1	3 33	0 9	0 2	5 38	3 1	0 8	7 56	1 4	0 3	4 91			
(9) Howrah				0 1		8 39	0 4	0 1	7 56	0 1	(a)	4 20			
(10) Jalpaiguri	1 5	0 5	8 41	2 6	0 5	4 85	1 7	0 5	7 56	0 4	0 1	4 20			
(11) Darjeeling	1 2	0 2	5 33	1 2	0 3	6 83	1 2	0 3	7 00	1 2	0 3	7 00	.		
(12) Malda	16 6	6 4	10 54	29 1	8 8	8 20	23 3	5 4	6 26	23 5	1 0	1 15			
(13) West Dinajpur	2 9	0 8	7 68	5 7	1 0	4 85	8 9	1 3	3 93	15 4	2 4	4 20			
(14) Cooch Behar ..	9 9	3 1	8 42	11 8	3 8	8 75	9 1	1 9	5 55	7 8	3 3	11 49			
Total West Bengal	133 1	38 4	7 86	141 0	44 9	8 66	154 7	43 4	7 63	201 1	25 4	3 44			

TABLE No. A·6

Area, production and yield rate of Barley in the districts of West Bengal

Districts	1953 54 Area ('000 acres)	1953 54 Production ('000 tons)	1953 54 Yield rate (mds / acre)	1954-55 Area ('000 (acre)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acre)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	0 3	0 1	7 66	0 1		7 86	.			0 1	(a)	3 81			
(2) Nadia	6 8	1 2	5 02	6 2	1 2	5 20	6 8	1 2	4 57	10 2	1 4	3 81		.	
(3) Murshidabad	40 7	11 6	7 76	30 9	9 0	7 93	32 5	10 2	8 52	57 4	9 4	4 48		.	
(4) Burdwan	0 9	0 2	7 66	1 1	0 4	10 33	1 4	0 4	7 46	3 0	0 4	3 81			
(5) Birbhum	0 2	0 1	7 66	1 4	0 4	7 86	0 4	0 1	7 46	2 4	0 3	3 81			
(6) Bankura	0 5	0 2	11 18	1 2	0 2	4 91	1 3	0 4	8 69	1 3	0 1	1 46			
(7) Midnapore	0 5	0 2	9 58	0 7	0 2	7 86	0 7	0 2	7 46	0 2	(a)	3 81			
(8) Hooghly	0 2	0 1	7 66	0 1		7 86	0 5	0 1	7 46						
(9) Howrah .	.														
(10) Jalpaiguri .	2 5	0 4	4 79	2 4	0 7	7 87	0 9	0 3	7 46	0 6	0 1	3 81			
(11) Darjeeling	0 4	0 1	5 25	0 4	0 1	5 50	0 5	0 1	6 00	0 4	0 1	6 12		.	
(12) Malda	60 1	18 1	8 21	45 1	14 8	8 91	51 1	13 2	7 05	83 6	15·2	4 96		.	.
(13) West Dinajpur	8 0	1 5	5 15	15 1	4 4	7 86	11 7	3 0	6 93	13 3	1 9	3 81	.	.	.
(14) Cooch Behar .	2 6	0 8	8 35	2 0	0 6	8 75	1 2	0 2	5 28	0 7	0 1	4 35	.	..	.
Total West Bengal	123 7	34 6	7 62	106 7	32 0	8 17	109 0	29 4	7 33	173 1	29 1	4 58	.	.	

(a) Below 50 tons.

TABLE No. A·7

Area, production and yield rate of Jowar in the districts of West Bengal

Districts	1953 54			1954-55			1955 56			1956 57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate mds / acre)
(1) 24-Parganas ..	..		..									6 00	..	..	
(2) Nadia	0 4	0 2	15 00	0 4	0 1	6 00	0 7	0 2	7 00	0 5	0 1	6 00			
(3) Murshidabad	2 9	0 9	8 00	2 9	0 9	8 00	2 8	0 7	7 00	1 2	0 3	6 50			
(4) Burdwan ..										0 1	(a)	6 65			
(5) Birbhum	0 1	(a)	8 00	0 1	(a)	8 00	0 1	(a)	9 00	0 2	(a)	7 00			
(6) Bankura	0 1	(a)	5 00	0 1	(a)	6 00	0 1	(a)	9 00	0 1	(a)	4 00			
(7) Midnapore	0 1	(a)	5 50	0 1	(a)	5 50	0 1	(a)	4 00	0 1	(a)	6 00			
(8) Hooghly	0 1	(a)	6 00	0 1	(a)	6 00	0 1	(a)	6 00	0 1	(a)				
(9) Howrah															
(10) Jalpaiguri	..														
(11) Darjeeling															
(12) Malda										..					
(13) West Dinajpur															
(14) Cooch Behar	0 2	0 1	8 00	0 2	0 1	7 50	0 2	0 1	8 00	0 2	(a)	6 00			
Total West Bengal	3 9	1 2	8 54	3 9	1 1	7 62	4 1	1 1	7 05	2 5	0 6	6 00			

TABLE No. A·8

Area, production and yield rate of Maize in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956 57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas ..	0 5	0 1	6 00	0 5	0 1	3 00	0 5	0 1	5 00	0 4	0 1	6 00			
(2) Nadia	0 6	0 2	9 00	0 4	0 1	7 00	0 2	(a)	7 00	0 1	(a)	6 00			
(3) Murshidabad	2 0	0 7	10 00	2 2	0 8	9 50	2 0	0 7	9 00	2 2	0 4	5 50			
(4) Burdwan	0 4	0 1	7 00	0 4	0 1	6 00	0 4	0 1	6 00	0 4	0 1	6 00			
(5) Birbhum	2 3	0 6	7 00	2 0	0 5	7 50	2 2	0 7	8 50	2 3	0 6	7 00			
(6) Bankura	3 0	0 6	5 00	5 0	0 8	4 50	6 0	1 1	5 00	6 4	1 5	6 50			
(7) Midnapore	2 9	0 5	5 00	3 0	0 6	5 50	4 2	0 9	6 00	4 1	0 8	5 00	.	.	.
(8) Hooghly	0 1	(a)	7 00	0 2	(a)	7 00	0 2	(a)	7 00	0 2	0 1	7 00			
(9) Howrah															
(10) Jalpaiguri	8 0	2 4	8 00	8 5	2 2	7 00	7 5	1 6	6 00	7 6	1 8	6 50			
(11) Darjeeling	68 8	21 7	8 60	68 8	20 2	8 00	69 0	21 8	8 60	69 1	22 1	8 70			
(12) Malda	25 0	9 2	10 00	24 4	7 2	8 00	31 6	9 3	8 00	32 0	9 4	8 00			
(13) West Dinajpur	1 5	0 6	10 00	1 6	0 6	10 00	1 6	0 6	10 00	1 6	0 6	10 00			
(14) Cooch Behar				0 2	0 1	8 00	0 2	0 1	8 00	0 2	(a)	6 50			
Total West Bengal	115 1	36 7	8 67	117 2	33 3	7 74	125 6	37 0	8 03	126 6	37 5	8 06			

(a) Below 50 tons.

TABLE No. A·9

Area, production and yield rate of Ragi in the districts of West Bengal

Districts	1953 54.			1954 55			1955 56			1956 57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24 Parganas															
(2) Nadia															
(3) Murshidabad															
(4) Burdwan															
(5) Birbhum															
(6) Bankura															
(7) Midnapore				0 3	(a)	3 00									
(8) Hooghly															
(9) Howrah															
(10) Jalpaiguri															
(11) Darjeeling	23 7	5 4	6 20	23 5	5 2	6 00	23 8	5 5	6 30	24 3	5 8	6 50			
(12) Malda															
(13) West Dinajpur	0 1	(a)	8 00	0 1	(a)	8 00									
(14) Cooch Behar															
Total West Bengal	23 8	5 4	6 2.	23 9	5 2	5 97	23 8	5 5	6 30	24 3	5 8	6 50			

TABLE No. A·10

Area, production and yield rate of Bajra in the districts of West Bengal

Districts	1953 54			1954-55			1955 56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24 Parganas															
(2) Nadia															
(3) Murshidabad	0 1	(a)	7 00	0 1	(a)	7 50	0 1	(a)	7 50	0 1	(a)	6 00			
(4) Burdwan															
(5) Birbhum															
(6) Bankura															
(7) Midnapore															
(8) Hooghly															
(9) Howrah															
(10) Jalpaiguri															
(11) Darjeeling															
(12) Malda	0 3	0 1	12 00	0 3	0 1	6 00	0 2	(a)	6 00	0 3	0 1	60 0			
(13) West Dinajpur															
(14) Cooch Behar															
Total West Bengal	0 4	0 2	10 75	0 4	0 1	6 50	0 3	0 1	6 50	0 4	0 1	6 00	.	.	..

(a) Less than 50 tons

TABLE No. A·11

Area, production and yield rate of other Cereals (total Bhadoi and Rabi) in the districts of West Bengal

Districts.	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956 57 Area ('000 acres)	1956 57 Production ('000 tons)	1956 57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre).
(1) 24-Parganas														..	.
(2) Nadia	0 3	0 1	10 00	0 2	0 1	8 00	0 2	(a)	7 00	0 2	0 1	7 00			.
(3) Murshidabad	1 1	0 2	6 00	0 8	0 1	4 50	0 8	0 1	5 00	0 8	0 2	6 50			.
(4) Burdwan							0 1	(a)	4 00	0 1	(a)	4 00		.	.
(5) Birbhum				0 4	0 1	5 00	0 5	0 1	5 44	0 3	0 1	5 00		..	.
(6) Bankura	4 7	1 4	8 11	3 9	1 1	7 68	3 2	1 0	8 51	3 2	0 9	7 75			.
(7) Midnapore	8 8	1·9	5 88	8 8	1 3	4 02	10 1	1 8	4 85	10 8	2 2	5 64			.
(8) Hooghly	0 1	(a)	11·00	0 1	(a)	9 0^	0 1	(a)	9 00	0 1	(a)	9 00			.
(9) Howrah														.	.
(10) Jalpaiguri													.	.	..
(11) Darjeeling	0 1	(a)	5 00	0 1	(a)	5 00				0 1	(a)	12 00	.	.	.
(12) Malda	2 5	0 5	5 44	2 6	0 5	5 23	6 4	1 2	5 10	6 0	1 2	5 42	.	.	..
(13) West Dinajpur														.	.
(14) Cooch Behar	2 8	0 9	8 75	2 8	0 8	7 78	3 0	0 9	8 17	3 0	0 6	5 20			.
Total West Bengal	20 4	5 0	6 81	19 7	3 9	5 39	24 5	5 1	5 67	24 6	5 3	5 87	..	..	.

TABLE No. A·12

Area, production and yield rate of Gram in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955 56 Area ('000 acres)	1955 56 Production ('000 tons)	1955 56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds./ acre).
(1) 24-Parganas	40 2	12 5	8 49	38 8	16 3	11 46	32 1	11 8	10 03	27 7	11 0	10 85	.		..
(2) Nadia	169 3	61 9	9 95	150 0	59 4	10 78	149 6	50 6	9 21	154 0	46 2	8 17	..	.	..
(3) Murshidabad	142 2	36 6	7 00	114 3	36 8	8 77	119 6	32 8	7 46	105 8	23 0	5·91	.		.
(4) Burdwan	24 9	8 4	9 24	27 7	8 4	8 25	32 7	7 5	6 19	30 8	7 2	6 35	.		
(5) Birbhum	38 0	11 7	8 35	32 0	10 5	8 95	35 8	12 9	9 81	22 3	4 2	5 08			.
(6) Bankura	7 6	1 8	6 42	8 2	1 6	5 26	8 0	1 2	4 04	6 9	1 7	6 58			.
(7) Midnapore	6 1	1 8	8 18	8 6	2 5	8 01	8 8	2 2	6 89	7 0	1 1	4 13			
(8) Hooghly	6 5	1 6	6 65	9 2	3 2	9 48	12 4	3 1	6 87	8 8	2 0	6 18			.
(9) Howrah	0 3	0 1	8 18	1 1	0 3	7 44	2 2	0 4	4 23	1 1	0 3	6 35			.
(10) Jalpaiguri				0 1	(a)	8 90				0 1	(a)	6 35			
(11) Darjeeling	..			.									.		.
(12) Malda	45 3	14 1	8 48	36 8	11 0	8 14	54 8	12 9	6 41	55 7	8 0	3 92			
(13) West Dinajpur	5 7	1 1	5 14	11 4	2 1	4 97	12 1	1 9	4 28	5 7	1 3	6 35	.		
(14) Cooch Behar	0 1	(a)	8 18	0 1	(a)	8 90	0 1	(a)	7 40	0 2	(a)	6 35			.
Total West Bengal	486 2	151 6	8 49	438 3	152 3	9 46	468 2	137 3	7 98	426 1	106 0	6 77	.		..

(a) Below 50 tons

TABLE No. A·13

Area, production and yield rate of Tur (Arhar) crop in the districts of West Bengal

Districts.	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000) tons)	Yield rate (mds / acre)	Area ('000) acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre).
(1) 24-Parganas	0.9	0.3	8.07	0.9	0.2	4.75	0.6	0.2	8.45	0.4	0.1	5.27			
(2) Nadia	15.4	3.1	5.47	17.7	4.2	6.50	14.0	4.1	7.94	8.3	1.6	5.27			
(3) Murshidabad	12.8	5.2	11.05	22.0	7.3	8.97	23.8	6.9	7.92	16.0	2.3	3.89			
(4) Burdwan	0.8	0.2	8.07	3.0	0.9	8.58	3.2	1.0	8.45	1.6	0.3	5.27			
(5) Birbhum	1.3	0.4	8.29	1.8	0.3	5.19	1.7	0.5	8.45	0.9	0.2	5.27			
(6) Bankura	4.7	1.4	8.07	3.8	0.8	5.84	4.6	1.4	8.45	2.9	0.6	5.27			
(7) Midnapore	1.6	0.5	8.07	2.5	0.6	6.60	4.3	1.3	8.45	3.1	0.5	4.61			
(8) Hooghly	0.2	0.1	8.07	0.4	0.1	4.75	0.2	0.1	8.45	0.2	(a)	5.27			
(9) Howrah	0.1	(a)	8.07	0.2	(a)	4.75	0.1	(a)	8.45						
(10) Jalpaiguri	0.4	0.1	8.07	0.6	0.1	4.75	0.3	0.1	8.45	0.6	0.1	5.27			
(11) Darjeeling	0.1	(a)	8.07	0.1	(a)	4.75	0.1	(a)	8.45	0.1	(a)	5.27			
(12) Malda	2.9	0.9	8.07	2.6	0.6	5.86	2.8	0.9	8.45	3.7	1.2	8.80			
(13) West Dinajpur	2.4	0.7	8.07	1.2	0.2	4.75	1.2	0.4	8.45	0.7	0.1	5.27			
(14) Cooch Behar	0.4	0.1	8.07	0.3	0.1	4.75	0.2	0.1	8.45	0.2	(a)	5.27			
Total West Bengal	44.0	13.0	8.02	57.1	15.4	7.34	57.1	17.0	8.10	38.7	7.1	4.98			

TABLE No. A·14

Area, production and yield rate of Mung (Rabi and Kharif) in the districts of West Bengal

Districts	1953 54			1954-55			1955 56			1956 57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 (acre)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acre)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas	2.7	0.7	6.88	11.1	0.6	1.38	4.6	0.8	5.00	4.0	0.7	4.75			
(2) Nadia	0.2	(a)	6.88	1.8	0.3	5.57	3.1	0.4	5.02	1.0	0.1	3.80			
(3) Murshidabad	0.8	0.2	7.19	0.6	0.1	4.42	0.6	0.1	4.48	0.5	0.1	3.60			
(4) Burdwan	3.2	1.0	8.51	5.8	1.3	7.03	3.8	0.7	5.98	2.3	0.4	4.56			
(5) Birbhum	0.8	0.2	6.88	0.8	0.1	4.62	0.8	0.1	3.96	0.4	0.1	4.00			
(6) Bankura	2.8	0.8	7.03	4.1	0.6	3.92	3.3	0.5	3.98	2.1	0.2	2.57			
(7) Midnapore	20.0	5.1	7.44	25.2	3.3	4.24	16.0	2.0	4.20	10.9	1.3	3.25			
(8) Hooghly	4.0	0.6	5.11	5.9	0.5	4.08	3.8	0.6	4.98	1.3	0.2	3.77			
(9) Howrah	1.3	0.3	6.44	1.3	0.2	5.10	1.1	0.2	4.98	0.9	0.1	3.67			
(10) Jalpaiguri	0.4	0.1	6.69	0.2	(a)	4.92				0.7	0.1	3.71			
(11) Darjeeling															
(12) Malda				0.3	0.1	3.94	0.3	(a)	3.98	1.2	0.1	3.58			
(13) West Dinajpur	1.1	0.3	5.94	1.8	0.3	5.41	2.1	0.3	5.12	1.8	0.4	5.50			
(14) Cooch Behar	0.7	0.2	6.94	2.4	0.5	5.67	3.0	0.6	5.73	2.1	0.4	5.48			
Total West Bengal	38.0	9.5	6.73	61.3	7.9	4.84	42.5	6.3	5.22	29.2	4.2	3.90			

(a) Less than 50 tons.

TABLE No. A·15

Area, production and yield rate of Mashkalai (Rabi and Kharif) in the districts of West Bengal

Districts.	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas	11.6	2.7	6.26	22.8	6.2	7.41	30.8	10.2	8.98	18.1	2.7	4.12			
(2) Nadia	52.5	12.1	6.26	82.4	20.9	7.20	80.3	25.3	8.77	52.1	8.8	4.60			
(3) Murshidabad	43.5	9.9	6.13	51.9	10.6	5.54	38.5	6.0	4.83	11.1	1.0	2.44			
(4) Burdwan	9.7	3.3	8.95	11.8	3.0	7.61	15.6	4.8	8.45	7.3	1.1	4.16			
(5) Birbhum	3.3	0.7	5.38	3·2	0.8	6.51	3.9	0.8	5.89	3.3	0.5	4.06			
(6) Bankura	14.2	3.2	5.63	15.0	3.6	5.14	14.0	2.8	4.54	15.2	1.2	2.06			
(7) Midnapore	29.8	6.9	7.13	47.4	13.2	6.31	33.3	7.0	5.85	31.7	5.0	4.31			
(8) Hooghly	9.9	2.3	6.13	14.3	2.8	5.63	19.2	4.1	5.89	7.5	1.1	4.05			
(9) Howrah	0.5	0.1	6.13	0.3	0.1	6.89	0.4	0.1	5.79	0.9	0.1	4.11			
(10) Jalpaiguri	9.8	2.3	6.63	10.6	2.0	5.81	10.8	2.3	6.29	8.6	1.1	3.57			
(11) Darjeeling	0.8	0.2	6.38	1.1	0.1	4.66	0.8	0.2	5.89	1.0	0.2	4.30			
(12) Malda	98.1	18.0	5.00	136.1	38.3	7.33	119.2	17.0	5.42	62.5	9.8	4.25			
(13) West Dinajpur	24.8	5.7	5.63	34.6	9.7	6.82	36.4	7.9	6.89	31.1	8.6	7.53			
(14) Cooch Behar	15.7	4.0	7.63	15.1	4.1	7.89	19.3	4.5	7.34	17.8	3.3	4.97			
Total West Bengal	324.2	71.4	6.35	446.6	115.4	6.82	422.5	93.0	6.71	268.2	44.5	4.51			

TABLE No. A·16

Area, production and yield rate of Khesari in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas	42.8	8.2	5.21	63.2	15.7	6.78	53.6	10.5	5.33	34.0	9.5	7.65			
(2) Nadia	8.2	1.8	6.11	9.9	0.9	2.50	10.3	1.6	4.31	12.3	2.9	6.50			
(3) Murshidabad	81.1	22.6	7.58	69.7	18.3	7.13	63.4	16.4	7.04	55.9	7.7	3.75			
(4) Burdwan	16.6	4.7	7.69	15.9	2.9	4.89	18.2	2.9	4.42	19.7	3.8	5.23			
(5) Birbhum	56.3	12.2	5.91	50.7	7.1	3.83	50.7	7.5	4.01	30.8	5.9	5.23			
(6) Bankura	5.8	0.8	3.93	3.3	0.3	2.61	3.8	0.4	2.86	3.6	0.5	4.01			
(7) Midnapore	109.8	23.9	5.92	106.6	18.7	4.76	93.0	14.4	4.21	104.5	14.3	3.72			
(8) Hooghly	42.1	8.6	5.54	33.4	9.8	8.02	30.6	7.5	6.66	38.2	9.0	6.41			
(9) Howrah	30.8	5.4	4.72	34.9	2.7	2.13	28.3	5.0	4.86	32.8	6.3	5.23			
(10) Jalpaiguri	2.2	0.5	5.75	1.8	0.4	5.49	1.5	0.3	4.86	1.0	0.2	5.23			
(11) Darjeeling	..		.												
(12) Malda	20.7	3.4	4.45	15.2	2.6	4.63	11.7	1.5	3.53	11.2	1.9	4.55			
(13) West Dinajpur	6.2	1.3	5.75	3.1	0.6	5.49	3.2	0.6	4.86	2.1	0.4	5.23			
(14) Cooch Behar	9.5	2.1	6.13	15.0	1.7	3.08	9.4	1.1	3.15	8.7	1.7	5.23			
Total West Bengal	432.1	95.5	6.01	422.7	81.7	5.26	377.7	69.7	5.02	354.8	64.1	4.92			

TABLE No. A·17

Area, production and yield rate of Motor in the districts of West Bengal

Districts.	1953-54			1954-55			1955-56			1956-57			1957-58.		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre).
(1) 24 Parganas	13.2	2.3	4.69	16.1	3.9	6.58	18.0	2.2	3.27	11.8	2.8	6.57			
(2) Nadia	5.3	0.7	3.46	6.3	1.7	7.08	5.8	0.7	3.20	5.2	0.5	2.80			
(3) Murshidabad	14.4	1.5	2.65	12.9	1.5	9.48	15.2	3.5	6.23	8.0	1.4	4.70			
(4) Burdwan	0.6	0.1	3.46	0.9	0.2	7.08	0.8	0.1	4.66	0.4	0.1	4.69			
(5) Birbhum	0.5	0.1	3.46	0.8	0.2	7.08	0.4	0.1	4.66	0.1	(a)	4.69			
(6) Bankura	0.6	0.1	3.46	0.8	0.2	7.08	0.6	0.1	4.66	0.3	0.1	4.69			
(7) Midnapore	0.6	0.1	3.46	0.4	0.1	7.08	0.5	0.1	4.66	0.7	0.1	4.69			
(8) Hooghly	1.8	0.2	3.32	1.7	0.3	5.09	1.9	0.3	4.66	0.7	0.1	4.69			
(9) Howrah	0.8	0.1	3.46	0.8	0.2	7.08	0.4	0.1	4.66	0.4	0.1	4.69			
(10) Jalpaiguri															
(11) Darjeeling															
(12) Malda	1.9	0.2	3.46	1.4	0.3	7.08	3.1	0.5	4.66	1.3	0.2	4.69			
(13) West Dinajpur	0.4	(a)	3.46	0.4	0.1	7.08	0.3	(a)	4.66	0.2	(a)	4.69			
(14) Cooch Behar	0.2	(a)	3.46	0.3	0.1	7.08	0.4	0.1	4.66	0.3	0.1	4.69			
Total West Bengal	40.3	5.4	3.64	42.8	11.8	7.54	47.4	7.8	4.46	29.4	5.5	5.12			

TABLE No. A·18

Area, production and yield rate of Musur in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)
(1) 24-Parganas	78.0	15.0	5.22	72.2	13.5	5.08	72.9	11.9	4.44	67.4	8.4	3.37			
(2) Nadia	56.5	9.4	4.51	35.8	6.7	5.08	40.3	7.3	4.91	44.5	3.5	2.11			
(3) Murshidabad	96.7	25.2	7.11	83.2	17.3	5.65	61.1	13.6	4.57	71.7	11.0	4.17			
(4) Burdwan	16.5	5.3	8.70	17.8	3.9	6.01	17.7	4.7	7.22	20.1	2.1	2.89			
(5) Birbhum	12.7	2.2	4.70	12.7	2.1	4.48	9.6	1.4	3.93	6.5	0.7	2.89			
(6) Bankura	3.4	0.5	4.40	3.5	0.7	5.27	3.4	0.7	5.76	2.8	0.2	1.84			
(7) Midnapore	2.8	0.6	5.67	2.0	0.4	5.13	1.0	0.2	4.64	1.4	0.1	2.55			
(8) Hooghly	13.9	1.5	2.95	15.7	2.9	5.11	17.6	3.9	6.08	11.0	1.3	3.32			
(9) Howrah	4.6	0.5	3.06	2.7	0.2	1.90	3.9	0.6	4.64	2.2	0.2	2.89			
(10) Jalpaiguri	0.2	(a)	5.67	0.4	0.1	5.13	0.3	0.1	4.64	0.1	(a)	2.89			
(11) Darjeeling															
(12) Malda	15.5	4.3	7.48	10.5	1.9	4.98	5.7	0.4	1.75	5.6	0.6	2.89			
(13) West Dinajpur	10.4	1.5	3.86	8.6	0.5	1.70	5.7	0.1	0.25	5.6	0.6	2.89			
(14) Cooch Behar	4.2	0.5	3.61	4.1	0.5	3.58	3.4	0.4	3.51	4.1	0.4	2.89			
Total West Bengal	315.4	66.5	5.74	269.2	50.7	5.13	262.6	45.3	4.69	243.0	29.1	3.26			

(a) Below 50 tons

TABLE No. A·19

Area, production and yield rate of Kulti and other Rabi and Kharif pulses in the districts of West Bengal

Districts.	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres).	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58. Area ('000 acres).	1957-58. Production ('000 tons.)	1957-58. Yield rate (mds./ acre).
(1) 24-Parganas ..	1·0	0·3	7·00	0·9	0·2	6·00	0·9	0·2	6·00	1·4	0·4	7·28	.	..	..
(2) Nadia ..				1·1	0·3	8·00	1·5	0·5	9·00	1·4	0·3	6·00		.	..
(3) Murshidabad	0·1	(a)	4·00	0·3	(a)	4·50	0·6	0·2	5·87	1·7	0·2	3·53	.	..	.
(4) Burdwan	1·2	0·4	8·00	1·2	0·4	7·90	1·2	0·3	7·50	1·0	0·2	7·00	.	..	..
(5) Birbhum ..	0·2	(a)	6·00	0·3	(a)	5·62	0·4	0·1	6·12	0·4	0·1	6·25		..	.
(6) Bankura .	1·2	0·2	5·00	0·8	0·1	4·25	1·0	0·1	4·25	1·1	0·2	3·91	.	..	..
(7) Midnapore .	1·5	0·3	5·50	5·0	0·9	5·16	7·5	1·3	5·37	5·6	1·0	5·09		..	..
(8) Hooghly	0·4	0·1	7·00	0·3	0·1	6·00	0·2	(a)	6·00	0·2	(a)	6·00	.	..	..
(9) Howrah	0·3	0·1	5·00			..	..	.	.			..		..	..
(10) Jalpaiguri	0·4	0·1	7·50	0·4	0·1	5·75	0·2	(a)	5·00	0·7	0·1	4·86		..	.
(11) Darjeeling .	0·4	0·1	6·50	0·4	0·1	6·20	0·4	0·1	6·50	0·5	0·1	6·20	.	.	.
(12) Malda	1·4	0·3	5·00	1·7	0·2	3·00	2·7	0·3	3·00	3·3	0·4	3·15	..	..	..
(13) West Dinajpur	0·2	(a)	4·00	1·1	0·2	4·66	2·4	0·5	4·75	2·6	0·5	4·85	..	.	..
(14) Cooch Behar .	2·6	0·6	6·33	2·7	0·7	7·37	1·6	0·4	5·95	3·0	0·9	7·83	..	..	..
Total West Bengal ..	10·9	2·5	5·98	16·2	3·3	5·55	20·6	4·1	5·64	22·9	4·4	5·15		..	..

TABLE No. A·20

Area, production and yield rate of Rape and Mustard in the districts of West Bengal

Districts.	1953-54. Area ('000 acres)	1953-54. Production ('000 tons).	1953-54. Yield rate (mds / acre)	1954-55. Area ('000 acres).	1954-55. Production ('000 tons)	1954-55. Yield rate (mds / acre).	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre).	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58. Area ('000 acres)	1957-58. Production ('000 tons).	1957-58. Yield rate (mds./ acre)
(1) 24-Parganas ..	3·6	0·6	4·50	4·1	0·7	4·40	3·9	0·5	3·60	4·5	0·8	4·98	..	..	..
(2) Nadia .	14·5	2·4	4·50	21·0	3·6	4·72	20·5	2·3	3·06	16·1	2·3	3·84	..	..	..
(3) Murshidabad	12·1	2·0	4·50	21·0	4·5	5·88	32·6	4·9	4·06	18·1	4·5	6·75	..	..	..
(4) Burdwan	2·6	0·4	4·50	4·7	0·8	4·40	5·3	0·7	3·60	2·4	0·3	3·84	..	..	..
(5) Birbhum	1·8	0·3	4·50	1·3	0·2	4·40	1·9	0·2	3·60	1·1	0·2	3·84	..	..	..
(6) Bankura .	3·5	0·6	4·50	3·8	0·6	4·40	3·6	0·5	3·60	2·2	0·3	3·84	..	.	.
(7) Midnapore .	11·4	1·9	4·50	8·6	1·3	3·94	10·2	2·0	5·27	7·0	0·5	1·87	..	..	.
(8) Hooghly .	2·7	0·5	4·50	3·2	0·5	4·40	2·9	0·4	3·60	3·5	0·7	5·15	..	..	..
(9) Howrah .	0·1	(a)	4·50	0·8	0·1	4·40	0·4	0·1	3·60	0·2	(a)	3·84	..	..	.
(10) Jalpaiguri .	26·4	4·1	4·20	28·3	4·9	4·69	21·6	2·6	3·28	20·9	2·4	3·12	..	..	..
(11) Darjeeling .	3·0	0·4	3·78	1·9	0·1	1·73	2·4	0·4	4·00	2·3	0·3	4·00	..	..	..
(12) Malda ..	32·2	4·3	3·61	28·3	4·9	4·69	30·8	3·5	3·14	30·9	6·7	4·94	..	..	..
(13) West Dinajpur .	50·1	6·1	3·32	40·1	6·5	4·40	48·5	10·5	5·91	29·8	1·8	1·65	..	..	..
(14) Cooch Behar	26·9	4·5	4·59	38·0	5·7	4·10	39·7	5·8	3·98	32·5	3·7	3·07	..	..	..
Total West Bengal ..	190·9	28·1	4·00	205·1	34·4	4·56	224·3	34·4	4·17	177·5	24·5	3·75	..	.	..

(a) Below 50 tons

TABLE No. A·21

Area, production and yield rate of Linseed in the districts of West Bengal

Districts	1953-54.			1954-55			1955-56			1956-57			1957-58.		
	Area ('000 acres).	Production ('000 tons).	Yield rate (mds / acre)	Area ('000 acres).	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons).	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons).	Yield rate (mds./ acre)	Area ('000 acres).	Production ('000 tons).	Yield rate (mds./ acre).
(1) 24-Parganas	..			0 3	(a)	2 75	0 2	(a)	3 46	0 5	(a)	1 54			
(2) Nadia	21 0	2 7	3 50	21 7	2 3	2 89	32 1	5 0	4 26	46 1	3 2	1 88	..		..
(3) Murshidabad	39 2	3 6	2 50	39 7	4 2	2 89	42 1	4 3	2 78	48 8	2 9	1 63			..
(4) Burdwan	0 7	0 1	2 96	1 1	0 1	2 75	0 4	0 1	3 46	1 9	0 1	1 54		..	..
(5) Birbhum	1 5	0 2	2 96	7 3	0 8	2 93	5 4	0 6	3 10	4 9	0 3	1 54			..
(6) Bankura	3 3	0 4	2 96	1 8	0 1	2 04	1 8	0 2	3 46	3 0	0 2	1 54			..
(7) Midnapore	0 8	0 1	2 96	1 5	(a)	0 79	2 4	0 2	2 21	2 4	0 1	1 54	..	..	..
(8) Hooghly														.	
(9) Howrah				0 5	0 1	2 75	0 3	(a)	3 46	0 3	(a)	1 54		.	..
(10) Jalpaiguri	0 2	(a)	2 96	.						0 1	(a)	1 54			..
(11) Darjeeling													.	.	.
(12) Malda	3 3	0 4	3 40	3 7	0 3	2 42	4 2	0 4	2 84	8 2	0 3	1 11	.	.	
(13) West Dinajpur	0 4	(a)	2 96	2 6	0 3	2 75	1 2	0 2	3 46	2 1	0 1	1 54	..		.
(14) Cooch Behar							0 1	(a)	3 46	0 1	(a)	1 54			.
Total West Bengal .	70 4	7·5	2 89	80 2	8 3	2 81	90 2	11 1	3·34	118 4	7 3	1 68	..	..	.

TABLE No. A·22

Area, production and yield rate of Til (Summer and Winter) in the districts of West Bengal

Districts	1953-54			1954-55			1955-56			1956-57			1957-58		
	Area ('000 acres)	Production ('000 tons)	Yield rate (mds , acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds ' acre)	Area ('000 acres	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre)	Area ('000 acres)	Production ('000 tons)	Yield rate (mds / acre
(1) 24-Parganas							..	..	..					..	..
(2) Nadia	0·7	0 2	6 0	1 0	0 2	6 09	1 1	0 3	7 44	1 1	0 2	5 00		.	.
(3) Murshidabad	1 5	0 3	5 2	1 6	0 3	5 12	1 6	0 3	4 66	1 9	0 3	4 63			
(4) Burdwan	1 0	0 2	5 0	0 9	0 1	4 50	0 9	0 2	4 82	0 9	0 2	4 56	.		..
(5) Birbhum	1 0	0 1	4 0	0 3	0 1	7 50	0 3	0 1	4 50	0 3	0 1	4 67			
(6) Bankura	3 9	0 8	5 2	4 0	0 8	5 00	3 7	0 7	5 00	3 9	0 8	5 38	..	.	
(7) Midnapore	2 4	0 5	5 5	2 3	0 4	4 75	2 6	0 4	4 32	2 1	0 3	4 29			
(8) Hooghly	0 2	(a)	6 0	0 2	(a)	6 00	0 2	(a)	6 00	0 1	(a)	6 00			..
(9) Howrah ..							.	.	.	.			.	.	.
(10) Jalpaiguri	0·1	(a)	5·0	0 1	(a)	6 00	0 1	(a)	5 00	0 1	(a)	5·50	..	.	.
(11) Darjeeling	.			.			..	..		.		.		..	
(12) Malda ..	0·4	(a)	3 0	0 3	(a)	3 00	0 4	(a)	3 00	0 3	(a)	3 00	.	.	.
(13) West Dinajpur	0 1	(a)	5 0	0 1	(a)	5 00	0 1	(a)	5 50	0 1	(a)	5·40	.	.	..
(14) Cooch Behar .	0 1	(a)	6 0	0 2	0 1	7 00	0·1	(a)	6 00	0 1	(a)	6·00	.	.	.
Total West Bengal ..	11·4	2 2	5 19	11 0	2 1	5 10	11 1	2 1	5 09	10 9	2·0	4·99	..	..	..

(a)—Below 50 tons.

TABLE No. A·23

Area, production and yield rate of other Oilseeds in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955 56 Area ('000 acres)	1955 56 Production ('000 tons)	1955 56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	3 2	0 5	4 00	0 8	0 1	4 00	0 6	0 1	4 00	0 8	0 1	4 00			..
(2) Nadia	0 1	(a)	4 50	0 2	(a)	4 50	0 2	(a)	4 50	0 2	(a)	2 00			..
(3) Murshidabad	0 8	0 2	5 00	0 9	0 2	5 00	0 9	0 2	5 00	0 3	0 1	6 65			
(4) Burdwan	0 4	(a)	3 00	0 4	(a)	3 00	0 2	(a)	3 00						
(5) Birbhum	0 1	(a)	4 00	0 1	(a)	4 00	0 1	(a)	4 00	0 2	(a)	7 25			
(6) Bankura	9·5	1 9	5 50	9 5	1 4	4 00	9 5	1 4	4 00	0 4	0 1	4 65			..
(7) Midnapore	2 4	0 5	5 50	2 5	0 5	5 50	2 5	0 5	5 50	3 1	1 1	9 30			
(8) Hooghly	0 4	0 1	5 98	0 6	0 1	5 00									
(9) Howrah	1 3	0 4	8 15	0 3	0 1	5 00									
(10) Jalpaiguri															
(11) Darjeeling															
(12) Malda	0 1	(a)	4 00				0 1	(a)	3 00	0 1	(a)	4 00			..
(13) West Dinajpur															..
(14) Cooch Behar															..
Total West Bengal	18 3	3 6	5 33	15 3	2 4	4·34	14 1	2 2	4 32	5 1	1 4	7 47	..		

TABLE No. A·24

Area, production and yield rate of Jute in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 bales)	1953-54 Yield rate (bales/ acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 bales)	1954-55 Yield rate (bales/ acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 bales)	1955-56 Yield rate (bales/ acre)	1956 57 Area ('000 acres)	1956 57 Production ('000 bales)	1956 57 Yield rate (bales/ acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 bales)	1957-58 Yield rate (bales/ acre)
(1) 24-Parganas	68 6	256 6	3 74	80 2	240 6	3 00	102 5	294 2	2 87	66 5	144 3	2 17			
(2) Nadia	65 8	119 2	1 81	50 9	120 1	2 36	78 9	171 2	2 17	69 3	142 8	2 06			
(3) Murshidabad	80 0	116 0	1 45	97 5	190 1	1 95	127 5	214 2	1 68	135 2	281 2	2 08			
(4) Burdwan	10 9	33 0	3 03	14 0	42 6	3 04	21 9	71 8	3 25	26 1	54 3	2 08			
(5) Birbhum	0 7	2 0	2 86	0 3	1 0	3 40	1 1	3 5	3 14	0 5	1 0	1 92			
(6) Bankura	1 0	3 0	3 00	1 8	6 1	3 40	1 7	5 3	3 14	1 1	2 1	1 92			
(7) Midnapore	25 6	70 0	2 73	27 9	111 0	3 98	32 6	99 8	3 06	27 9	49 1	1 76			
(8) Hooghly	51 4	174 1	3 39	64 9	257 7	3 97	82 8	309 7	3 74	58 7	167 9	2 86			
(9) Howrah	10 4	34 2	3 29	18 0	47 3	2 63	14 9	37 1	2 49	11 0	19 0	1 73			
(10) Jalpaiguri	45 1	162 9	3 61	43 2	134 8	3 12	61 6	137 4	2 23	50 5	107 6	2 13			
(11) Darjeeling	6 1	26 2	4 30	6 1	17 3	2 84	6 3	13 0	2 07	6 3	18 1	2 87			
(12) Malda	58 1	177 2	3 05	36 9	64 2	1 74	83 6	179 7	2 15	77 7	111 1	1 43			
(13) West Dinajpur	53 7	136 0	2 53	34 7	62 5	1 80	58 3	152 2	2 61	57 4	86 7	1 51			
(14) Cooch Behar	57 3	188 0	3 28	74 2	201 1	2 71	105 8	268 7	2 54	83 5	159 5	1 91			
Total West Bengal	534 7	1,498 4	2 80	550 6	1,496 4	2 72	779 5	1957 8	2 51	671 7	1,344 7	2 00			

(a) Below 50 tons.

TABLE No. A·25

Area, production and yield rate of Mesta in the districts of West Bengal

Districts	1953-54 Area ('000 acres).	1953-54 Production ('000 bales)	1953-54 Yield rate (bales/ acre)	1954 55 Area ('000 acres)	1954 55 Production ('000 bales)	1954 55 Yield rate (bales/ acre)	1955 56 Area ('000 acres)	1955 56 Production ('000 bales)	1955 56 Yield rate (bales/ acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 bales)	1956-57 Yield rate (bales/ acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 bales)	1957-58 Yield rate (bales/ acre).
(1) 24-Parganas	5 6	22 0	3 93	44 2	176 8	4 00	52 4	209 6	4 00	51 3	179 6	3 50			
(2) Nadia	3 2	7 1	2 25	43 7	153 0	3 50	78 9	261 9	3 32	117 3	351 9	3 00		..	.
(3) Murshidabad	0 2	0 4	2 00	13 7	41 1	3 00	18 6	51 2	2 75	44 3	110 8	2 50			.
(4) Burdwan	0 6	2 1	3 50	4 7	14 1	3 00	5 0	15 0	3 00	12 8	19 2	1 50			.
(5) Birbhum	0 2	0 2	1 20				0 2	0 2	1 10	0 3	0 3	1 00			..
(6) Bankura	0 5	0 5	1 00	2 1	2 1	1 00	2 8	2 8	1 00	2 1	2 1	1 00			
(7) Midnapore	0 4	0 6	1 50	2 6	3 3	1 25	2 3	4 1	1 80	1 9	3 2	1 71			
(8) Hooghly	0 1	0 2	2 00	2 6	5 2	2 00	2 6	5 2	2 00	4 4	16 5	3 74			.
(9) Howrah				0 1	0 2	2 00									
(10) Jalpaiguri				0 5	1 0	2 00	0 9	1 6	1 75	4 3	8 3	1 92		.	.
(11) Darjeeling															
(12) Malda	1 2	1 8	1 50	9 7	12 1	1 25	15 3	18 8	1 23	25 8	27 6	1 07		.	
(13) West Dinajpur	0 2	0 4	2 00	5 8	17 4	3 00	10 6	31 8	3 00	24 7	63 2	2 56		..	.
(14) Cooch Behar	0 1	0 2	2 50	1 0	2 0	2 00	3 1	9 3	3 00	7 6	20 9	2 75	..	..	
Total West Bengal	12 3	35 5	2 89	130 7	428 3	3 28	192 7	611 5	3 17	296 8	803 6	2 71	.	.	..

TABLE No. A·26

Area, production and yield rate of Potato in the districts of West Bengal

Districts	1953 54 Area ('000 acres)	1953 54 Production ('000 tons)	1953 54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956 57 Area ('000 acres)	1956 57 Production ('000 tons)	1956 57 Yield rate (mds / acre)	1957 58. Area ('000 acres)	1957 58. Production ('000 tons)	1957 58. Yield rate (mds./ acre)
(1) 24-Parganas	4 2	23 0	148 9	5 2	16 5	86·4	3 7	10 1	74 22	6 5	18 2	76 36			.
(2) Nadia	0 9	3 3	99 0	1 0	3 1	84 0	0 9	2 1	64 40	1 1	2 2	54 85			
(3) Murshidabad	5 3	19 8	101 1	4 6	20 6	122 1	5 9	24 7	113 72	6 3	13 9	60 19			..
(4) Burdwan	15 6	75 4	119 4	19 1	77 9	111 0	19 7	74 6	103 06	20 4	41 4	55 19			..
(5) Birbhum	8 4	30 3	98 2	8 7	25 5	79 7	8 4	20 7	67 11	7 8	15 4	53 72		.	
(6) Bankuar	4 1	15 7	103 9	3 0	9 4	85 5	3 7	3 5	25 81	3 3	7 0	57 51			.
(7) Midnapore	10 7	28 6	72 8	9 4	29 0	84 0	15 3	29 8	52 99	12 5	39 8	86 65			
(8) Hooghly	29·1	131 3	122·9	29 6	125 4	115 3	31 3	146 3	127 26	36 0	124 9	94 47			..
(9) Howrah	2·9	11 6	108 9	3 0	10 6	95 7	3 3	15 7	129 34	2 1	4 2	54 85			
(10) Jalpaiguri	3 4	11 0	87 8	5 0	14 7	80 1	4 5	9 3	56 34	3 4	6 9	54 85			
(11) Darjeeling	5 6	13 7	66 7	5 5	13 5	66 6	5 3	12 5	64 21	5 4	12 9	65 06			
(12) Malda	2 0	7 7	105 2	1 4	3 3	63 8	2 0	4 7	64 40	2 5	2 7	29 13			
(13) West Dinajpur	7 4	26 9	99 0	5 0	13 2	71 6	6 7	20 6	83 71	5 8	12 7	59 59			
(14) Cooch Behar	4 2	15 3	99 0	4 5	11 4	69 2	4 6	11 6	68 44	3 3	3 1	25 68			.
Total West Bengal ..	103 8	413 6	108 4	105 0	374 1	97 0	115 3	386 2	91 2	116 4	305 3	71 40			

TABLE No. A·27

Area, production and yield rate of Sugarcane in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	1 1	17 6	436 10	2 4	51 7	585 74	2 0	44 0	599 23	2 0	37 4	509 26			
(2) Nadia	8 5	115 8	370 82	7 4	148 3	545 45	6 3	122 1	527 45	7 1	137 5	527 19			
(3) Murshidabad	13 6	179 2	358 67	18 0	403 9	610 80	16 0	362 1	615 95	14 3	301 5	573 96			
(4) Burdwan	5 5	76 8	380 25	6 8	134 6	538 90	10 1	223 8	603 14	8 7	181 0	566 26			
(5) Birbhum	7 3	90 2	336 29	7 7	148 3	524 07	8 7	207 0	647 82	10 5	199 3	516 71			
(6) Bankura	2 8	47 1	457 68	4 6	99 0	585 74	5 5	121 9	603 36	4 3	84 6	535 40			
(7) Midnapore	2 2	36 7	453 84	2 3	27 5	325 58	2 3	49 6	587 53	2 4	44 9	509 26			
(8) Hooghly	1 7	27 3	436 97	1 8	52 4	792 17	1 7	41 1	657 92	1 3	25 2	528 45			
(9) Howrah	0 3	4 8	435 36	0 8	17 3	589 99	0 9	20 0	606 03	0 5	9 4	509 26			
(10) Jalpaiguri	0 2	3 4	457 68	0 2	4 3	585 74	0 5	10 8	587 11	0 3	5 6	509 26			
(11) Darjeeling	0 2	3 4	457 68	0 2	4 3	585 74	0 2	3 1	420 00	0 2	3 1	420 00			
(12) Malda	2 4	29 5	334 77	3 4	75 7	605 74	4 8	59 0	334 66	3 4	50 0	400 52			
(13) West Dinajpur	1 0	16 8	457 68	1 0	21 5	585 74	1 8	22 8	344 85	1 3	25 0	522 97			
(14) Cooch Behar	0 1	1 6	457 68	0 2	4 3	585 74	0 1	2 2	587 11	0 1	1 9	509 26			
Total West Bengal	46 9	650 2	377 38	56 8	1,193 1	571 71	60 9	1,289 5	576 38	56 4	1,106 4	533 98	.	.	..

TABLE No. A·28

Area, production and yield rate of Tobacco in the districts of West Bengal

Districts	1953-54 Area ('000 acres)	1953-54 Production ('000 tons)	1953-54 Yield rate (mds / acre)	1954-55 Area ('000 acres)	1954-55 Production ('000 tons)	1954-55 Yield rate (mds / acre)	1955-56 Area ('000 acres)	1955-56 Production ('000 tons)	1955-56 Yield rate (mds / acre)	1956-57 Area ('000 acres)	1956-57 Production ('000 tons)	1956-57 Yield rate (mds / acre)	1957-58 Area ('000 acres)	1957-58 Production ('000 tons)	1957-58 Yield rate (mds / acre)
(1) 24-Parganas	0 7	0 2	6 6	0 6	0 1	5 8	0 6	0 1	5 8	0·6	0 1	4 76			
(2) Nadia	0 9	0 2	5 1	0 6	0 1	5 8	0 6	0 1	4 0	0 5	0 1	2 99			
(3) Murshidabad	0 3	0 1	9 0	0 3	0 1	9 0	0 2	(a)	5 4	0·2	(a)	6 12			
(4) Burdwan	0 2	0 1	8 1	0 1	(a)	10 8	0 1	(a)	10 8	0 1	(a)	10 88			
(5) Birbhum	0 1	(a)	5 4	0 1	(a)	2 7									
(6) Bankura	0 2	(a)	6 8	0 2	0 1	6 8	0 1	(a)	5 4	0 1	(a)	5 44			
(7) Midnapore	0 4	0 1	9 5	0 2	0 1	6 8	0 3	0 1	5 4	0 1	(a)	5 44			
(8) Hooghly	0 4	0 2	10 8	0 2	0 1	10 8	0 2	0 1	8 1	0 1	(a)	9 52			
(9) Howrah	0 1	(a)	8 1												
(10) Jalpaiguri	5 3	1 5	7 7	6 1	1 3	5 7	5 3	1 1	5 7	5 0	1 0	5 63			
(11) Darjeeling	0 1	(a)	5 4	0 1	(a)	5 4									
(12) Malda	1 4	0 2	3 8	1·1	0 2	6 1	1 2	0 3	5 8	1 4	0 2	4 08			
(13) West Dinajpur	0 9	0 3	7 5	1 0	0 3	7 3	0 9	0 2	6 9	0 9	0 2	7 41			
(14) Cooch Behar	27 9	7 9	7 6	29 0	9 4	8 8	28 9	9 0	8 5	28 8	7 7	7 25			
Total West Bengal	38 9	10 8	7 5	39 6	11 8	8 1	38 4	11 1	7 87	37 8	9 5	6 83			

(a) Below 50 tons.

TABLE No. A·29

Agriculture machineries and implements in West Bengal (*)

	Nos
I *Sources of irrigation owned*—	
(a) Tube-wells	6,585
(b) Ring wells	55,112
(c) Masonry wells	16,659
(d) Tanks, dobs, etc	661,002
II *Number of irrigation implements*—	
(a) Diesel pumps	589
(b) Other pumps	562
(c) Persian wheels	295
(d) Dones	260,503
(e) Others (sheuti, etc)	350,171
III *Number of agricultural implements and accessories owned*—	
(a) Tractors	130
(b) Plough (wooden)	2,142,005
(c) Plough (iron)	3,259
(d) Harrow	1,381,703
(e) Spade	2,762,408
(f) Small items	5,912,639
(g) Sugarcane—	
(i) Power	806
(ii) Others	7,637
IV. *Means of transport owned*—	
(a) Carts	621,441
(b) Boats	33,034
V *Number of Cottage Industry implements*—	
(a) Ghanies (below 5 years)	4,925
(b) Ghanies (over 5 years)	9,552
(c) Looms	78,094
(d) Jacquards	7,986
(e) Dhonki	1,632,518
(f) Chanki	616,152
(g) Carpenters' Tools (sets)	101,096
(h) Blacksmiths' Tools (sets)	73,974
VI *Fishing implements*—	
(a) Fishing nets	1,157,092
(b) Fishing traps	1,048,025

TABLE No. A·30

Land Utilisation Statistics (All-India)†

(Figures in '000 acres)

Area classifications	1947-48	1948-49	1949 50	1950-51	1951 52	1952-53	1953-54	1954-55 (‡)	1955-56	1956-57	1957-58
A *Geographical area*—											
According to Survey General of India.	810,809	810,809	810,809	810,809	810,806	810,806	810,806	806,270	..		..
B. *Classification of area*—											
Area according to village papers (area for which returns exist)	589,819	588,297	679,240	702,556	711,235	718,268	718,973	719,210	..		..
(i) Forests	88,575	86,750	100,898	100,033	120,808	126,114	128,024	123,774	.	.	.
(ii) Not available for cultivation	101,345	101,850	121,038	117,416	123,981	123,119	118,614	120,078		.	.
(iii) Other uncultivated land excluding current fallow	92,445	93,256	115,294	122,183	99,835	98,963	98,084	97,989		.	..
(iv) Fallow lands	60,921	63,267	58,780	69,495	71,567	65,403	61,193	61,612	.	.	..
(v) Net area sown	245,508	243,174	283,221	293,429	295,044	304,669	313,058	315,757	.		..
C. *Sown area*—											
(i) Total area sown	278,156	276,595	321,329	325,914	329,227	339,858	351,705	355,854	.	.	.
(ii) Area sown more than once	32,648	33,421	38,108	32,485	34,183	35,189	38,647	40,097	..		..
(iii) Net area sown	245,508	243,174	283,221	293,429	295,044	304,669	313,058	315,757			.
D *Irrigated area*—											
(i) Gross irrigated area	50,145	50,018	53,717	55,755	57,278	57,604	59,835	61,334		.	..
(ii) Area irrigated more than once	3,501	3,151	3,920	4,226	5,265	5,287	6,141	7,072	.	.	.
(iii) Net irrigated area	46,644	46,867	49,797	51,520	52,013	52,407	53,694	54,262	.		..

(*)*Source* Livestock Census, 1951

†*Source* Indian Agricultural Statistics, 1953-54 (Vol I)

(‡)Agricultural situation in India (August 1957).

TABLE No. A·31

Annual requirement (nutritional) of food* in the districts of West Bengal for the year 1951

	Districts	Total population (Census, 1951)	Estimated population in terms of adult unit (i.e. 80 per cent of total population)	Annual requirements (in lakh tons)									
				Rice and other cereals at 4.25 mds per head per year	Pulses at 3 ozs per adult unit per day	Sugar and gur at 2 ozs per adult unit per day	Potato at 6 ozs per adult unit per day	Leafy vegetables at 4 ozs per adult unit per day	Fruits (mango, orange, etc.) at 3 ozs per adult unit per day	Mustard oil, ghee, etc. at 2 ozs per adult unit per day	Eggs at 1 (one) per adult unit per day (in millions)	Meat (including fish) at 3 ozs per adult unit per day.	Milk at 10 ozs. per adult unit per day.
	Calcutta	2,548,677	2,038,942	3.98	0.62	0.42	1.24	0.84	0.62	0.41	744	0.62	2.10
1	24-Parganas	4,609,309	3,687,447	7.20	1.13	0.75	2.26	1.50	1.13	0.75	1,346	1.13	3.75
2	Nadia	1,144,924	915,939	1.79	0.28	0.19	0.56	0.38	0.28	0.19	334	0.28	0.95
3	Murshidabad	1,715,759	1,372,607	2.68	0.42	0.28	0.84	0.56	0.42	0.28	501	0.42	1.40
4	Burdwan	2,191,667	1,753,334	3.42	0.54	0.36	1.08	0.72	0.54	0.36	640	0.54	1.80
5	Birbhum	1,066,889	853,511	1.67	0.26	0.17	0.52	0.34	0.26	0.17	312	0.26	0.85
6	Bankura	1,319,259	1,055,407	2.06	0.32	0.21	0.64	0.42	0.32	0.22	385	0.32	1.05
7	Midnapore	3,359,022	2,687,218	5.24	0.82	0.55	1.64	1.10	0.82	0.55	981	0.82	2.75
8	Hooghly	1,554,320	1,243,456	2.43	0.38	0.25	0.76	0.50	0.38	0.25	454	0.38	1.25
9	Howrah	1,611,373	1,289,098	2.52	0.39	0.26	0.78	0.52	0.39	0.26	471	0.39	1.30
10	Jalpaiguri	914,538	731,630	1.43	0.22	0.15	0.44	0.30	0.22	0.15	267	0.22	0.75
11	Darjeeling	445,260	356,208	0.70	0.11	0.07	0.22	0.14	0.11	0.07	130	0.11	0.35
12	Malda	937,580	750,064	1.46	0.23	0.15	0.46	0.30	0.23	0.15	274	0.23	0.75
13	West Dinajpur	720,573	576,458	1.13	0.18	0.12	0.36	0.24	0.18	0.12	210	0.18	0.60
14	Cooch Behar	671,158	536,926	1.05	0.16	0.11	0.32	0.22	0.16	0.11	196	0.16	0.55
	Total West Bengal	24,810,308	19,848,245	38.74	6.06	4.04	12.12	8.08	6.06	4.04	7,245	6.06	20.20

TABLE No. A·32

Annual requirement (nutritional) of food* in the districts of West Bengal for the year 1955

	Districts.	Estimated population (in '000)	Estimated population in terms of adult unit (i.e. 80 per cent of total population) (in '000)	Annual requirements (in lakh tons)									
				Rice and other cereals at 4.25 mds per head per year.	Pulses at 3 ozs per adult unit per day	Sugar and gur at 2 ozs per adult unit per day	Potato at 6 ozs per adult unit per day	Leafy vegetables at 4 ozs per adult unit per day	Fruits (mango, orange, etc.) at 3 ozs per adult unit per day	Mustard oil, ghee, etc at 2 ozs per adult unit per day	Eggs at 1(one) per adult unit per day (in millions)	Meat (including fish) at 3 ozs per adult unit per day	Milk at 10 ozs per adult unit per day
	Calcutta	2,669.5	2,135.6	4.17	0.65	0.44	1.30	0.88	0.65	0.44	779	0.65	2.20
1	24-Parganas	4,828.5	3,862.9	7.54	1.18	0.79	2.36	1.58	1.18	0.79	1,410	1.18	3.95
2	Nadia	1,199.4	959.5	1.87	0.29	0.20	0.58	0.40	0.29	0.20	350	0.29	1.00
3	Murshidabad	1,797.2	1,437.8	2.81	0.44	0.29	0.88	0.58	0.44	0.29	526	0.44	1.45
4	Burdwan	2,295.6	1,836.5	3.58	0.56	0.37	1.12	0.74	0.56	0.37	670	0.56	1.85
5	Birbhum	1,114.9	891.9	1.74	0.27	0.18	0.54	0.36	0.27	0.18	326	0.27	0.90
6	Bankura	1,381.9	1,105.5	2.16	0.34	0.23	0.68	0.46	0.34	0.23	403	0.34	1.15
7	Midnapore	3,518.4	2,814.8	5.49	0.86	0.57	1.72	1.14	0.86	0.57	1,028	0.86	2.85
8	Hooghly	1,627.9	1,302.3	2.54	0.40	0.26	0.80	0.52	0.40	0.26	475	0.40	1.30
9	Howrah	1,687.9	1,350.3	2.64	0.41	0.27	0.82	0.54	0.41	0.27	493	0.41	1.35
10	Jalpaiguri	957.8	766.2	1.49	0.24	0.16	0.48	0.32	0.24	0.16	280	0.24	0.80
11.	Darjeeling	466.4	373.1	0.73	0.11	0.08	0.22	0.16	0.11	0.08	136	0.11	0.40
12	Malda	982.3	785.8	1.53	0.24	0.16	0.48	0.32	0.24	0.16	287	0.24	0.80
13.	West Dinajpur	754.8	603.8	1.18	0.19	0.12	0.38	0.24	0.19	0.12	220	0.19	0.60
14.	Cooch Behar	703.0	562.4	1.10	0.17	0.11	0.34	0.22	0.17	0.11	205	0.17	0.55
	Total West Bengal	25,985.5	20,788.4	40.57	6.35	4.23	12.70	8.46	6.35	4.23	7,588	6.35	21.15

*Excluding loss due to handling and storage and requirement of seeds for the following year.

TABLE No. A·33

Summary of the All-India acreage under principal crops (*)

(Area in thousand acres)

Crops	1947 48	1948 49	1949-50	1950 51	1951 52	1952 53	1953-54	1954-55	1955 56	1956-57	1957-58
Foodgrains											
Cereals—											
Rice	64,415	72,485	75,414	76,135	73,665	74,209	77,318	75,949	76,864	78,174	.
Jowar	36 259	36,829	38,335	38,447	39,144	43,339	43,882	43,446	42,904	41,314	
Bajra	20,806	19,783	22,881	22,206	22,839	26,550	30,145	27,983	28,024	27,542	
Maize	8,507	8,423	8,061	7,807	8,073	8,897	9,661	9,311	9,116	9,244	
Ragi	5,148	5,350	5,450	5,444	5,399	5,428	5,767	5,711	5,693	5,674	
Small Millets	8,651	13,879	13,382	11,380	11,834	12,431	14,028	13,799	12,713	12,209	..
Wheat	20 843	22 342	24,114	24,082	23 450	24,285	26,304	27,517	30,380	32,891	
Barley	7,572	7 712	7 860	7,693	7 835	8,010	8,719	8,309	8,382	8,594	
Total Cereals	172,201	180,803	195,497	193,314	192,239	203,149	215,814	212,025	214,082	215,642	.
Pulses—											
Gram	19,336	20,497	20,497	18,706	19,857	18,014	19,680	22,047	24,157	23,990	
Tur	5,430	4,916	5,559	5,389	6,045	5,927	5,942	5,044	5,637	5,696	
Other pulses	20 678	20,782	23,777	23 080	23 477	24,746	28 064	27,309	27,270	27 609	
Total pulses	45,444	46 195	49,833	47,175	46 379	48,687	53 695	55 300	57,064	57,295	
Total foodgrains	217,645	232,998	245,330	240,489	238,618	251,836	269,509	267,325	271,146	272,937	.
Potato	N A	506	577	592	616	628	635	693	658		
Sugarcane	4,056	3,752	3,624	4,217	4,792	4,272	3,485	3,904	4,564	5,019	..
Tobacco	827	803	800	883	712	805	912	846	921		
Oilseeds—											
Groundnut	10,079	9,165	9,832	11,106	11,798	11 850	10,495	13,548	12,692	13,101	
Rape and Mustard	4,615	4,633	4,781	5,118	5,915	5,199	5,545	6,025	6,317	6,211	
Other oilseeds	9 371	9 688	10 272	10 284	10 675	10 612	11 125	11 249	10,624		
Total oilseeds	24 065	23,486	24,885	26 508	28 188	27,661	27 165	30 882	29,633		
Fibres—											
Cotton	10,655	11,293	12,173	14,536	16,198	15,693	17 265	18,684	19,978	19,843	
Jute	652	834	1,163	1,411	1,951	1,817	1,228	1,243	1,739	1,883	
Mesta						483	463	528	572	738	
Beverages—											
Tea	766	768	772	777	782	777					.
Coffee	215	218	223	224	230	230			.		

TABLE No. A·34

Summary of the All-India production of principal crops (*)

(Production in thousand tons)

Crops	1947 48	1948-49	1949-50	1950-51	1951-52	1952 53	1953 54	1954-55	1955 56	1956 57	1957 58
Foodgrains											
Cereals—											
Rice	21,247	22,597	23,170	20,251	20,741	22,495	27 769	24,531	26,846	28,142	
Jowar	5,971	5,022	5 777	5 408	5,944	7,260	7,954	9,093	6,602	7,427	
Bajra	2,813	2,171	2,790	2,554	2,299	3,150	4 475	3,421	3,379	2,926	
Maize	2,431	2,072	2,014	1 702	2,021	2,823	2,991	2,939	2,554	3,020	
Ragi	1,455	1,465	1,520	1,407	1,212	1,238	1 846	1,646	1,820	1,914	
Small Millets	1,614	2,131	2 242	1,722	1,891	1 905	2,438	2,456	1,937	2,010	
Wheat	5 570	5,650	6,290	6 360	6,049	7,383	7 890	8,778	8,569	9,068	
Barley	2,640	2,206	2 215	2,340	2,293	2 849	2,905	2 870	2,749	2,744	
Total cereals	43,741	43,314	46,018	41,744	42,440	49,103	58 268	55,734	54,456	57,251	
Pulses—											
Gram	4,503	4,535	3,667	3 593	3,203	4,165	4,756	5,393	5,331	5,930	
Tur	1,015	966	1,000	1,692	1 801	1,675	1 834	1,688	1,830	2,047	
Other pulses	2 735	2 939	3,363	2 993	3 155	3,168	3,860	3 789	3,670	3,458	
Total pulses	8,253	8,440	8,030	8,278	8,249	9,008	10,450	10,870	10,831	11,435	
Total foodgrains	51,994	51,754	54,048	50,022	50,689	58,111	68,718	66,604	65,287	68,686	
Potato	N A	1,306	1,519	1,634	1,670	1,950	1,925	1,839	1,736		
Sugarcane (1)	5,817	4,869	4,938	5,615	6,068	5,019	4,371	5,692	5,982	6,745	
Tobacco	234	255	264	257	205	241	268	244	259		
Oilseeds—											
Groundnut (2)	3,411	2,901	3,379	3,426	3,045	2,884	3,391	4,128	3,862	4,086	
Rape and mustard	806	735	703	750	916	837	858	1,019	848	1,017	
Other oilseeds	900	866	970	902	859	925	1,036	1,096	960		.
Total oilseeds	5,117	4,502	5,142	5,078	4,820	4,646	5,285	6,242	5,670	.	.
Fibres—											
Cotton (3)	2,188	1,767	2,628	2,910	3,133	3,131	3,944	4,227	4,001	4,723	.
Jute (4)	1,658	2,055	3,089	3,283	4,678	4,605	3,091	2,928	4,197	4,221	.
Mesta (4)						682	650	1,018	1,159	1,474	
Beverage—											
Tea (5)	561,740	577,807	585,030	607,318	641,079	675,270				..	
Coffee (5)	34,971	34,909	48,362	54,322	54,538	54,538					

(*) *Source*. Agriculture Situation In India.

(1) In terms of raw sugar.

(2) In terms of nuts in shell.

(3) In thousand bales of 392 lbs each of cotton lint

(4) In thousand bales of 400 lbs each.

(5) In thousand lbs.

TABLE No. A·35

Area irrigated in different districts of West Bengal for the year 1953-54

(in thousand acre).

	Districts.	Area irrigated from: Government canals	Private canals.	Tanks.	Wells.	Other sources.	Total.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	24-Parganas	..	93·0	19·6	..	1·0	113·6
2.	Nadia	..	6·0	1 5	..	2 7	10.2
3	Murshidabad	..	37 0	95·4	..	30 9	163 3
4.	Burdwan	202·8	50·0	101 0	4·0	50 0	407·8
5	Birbhum	9 8	40·0	203·0	0 4	140·0	393·2
6.	Bankura	9 1	59·0	268 0	3 0	11 0	350 1
7	Midnapore	62·6	310 0	99·7	11 0	190 6	673·9
8	Hooghly	16·8	67 5	39 0	0 7	70 0	194·0
9.	Howrah	.	39 5	1 5	..	15 0	56·0
10.	Jalpaiguri	11·6	148·5	3·0	2·3		165·4
11.	Darjeeling	2 8	3 0	..	..	40 0	45·8
12	Malda	..	11 0	14 5			25·5
13.	West Dinajpur	..	18·5	12 0	.	0 5	31·0
14	Cooch Behar	..	8·5	.	16·5	1 5	26·5
	Total West Bengal	315 5	891 5	858 2	37 9	553 2	2,656·3

TABLE No. A·35(a)

Area irrigated in different districts of West Bengal for the year 1954-55

(in thousand acres).

	Districts	Area irrigated from: Government canals.	Private canals	Tanks	Wells	Other Sources	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	24-Parganas	--	92 0	17 3	..	1 1	110 4
2.	Nadia	..	5·5	1 6	..	4 0	11 1
3.	Murshidabad	5 0	32 5	68 5	..	40 0	146 0
4	Burdwan	202 7	48 0	100 0	2·5	49 3	402 5
5	Birbhum	86 7	50 2	160 2	0 3	99 9	397 3
6	Bankura	9 7	60 0	212 0	2 0	8 2	291·9
7.	Midnapore	88 0	288 0	98 0	6 0	140 6	620 6
8.	Hooghly	17 8	60 5	31 2	0 5	60 0	170 0
9	Howrah	0 9	35 3	1 0	..	10 0	47·2
10	Jalpaiguri	11·9	140 0	2 2	5·0	0·5	159·6
11	Darjeeling	2 4	2 5	..	..	47·9	52·8
12.	Malda	..	9 8	19·0	..	..	28·8
13	West Dinajpur	..	17 8	18 5	0 2	0 5	37·0
14	Cooch Behar	.	7 3	..	19 0	2 8	29 1
	Total West Bengal	425 1	849 4	729 5	35·5	464·8	2,504 3

TABLE No. A·36

Crops Irrigated in different districts of West Bengal for the year 1953-54

(In thousand acres)

	Districts	Crops Irrigated: Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses	Sugarcane	Other food crops	Cotton	Other non-food crops	Total.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	24-Parganas	90 8	0 2					1 5	1 0	24·5		0 1	118 1
2	Nadia	8 5	0 2					0 2	0 9	1 5		0 1	11 4
3	Murshidabad	143 0	9 0	0 4				2 0	4 2	6 5		0·8	165·4
4	Burdwan	400 8	5 0	0 6				7 3	5 5	40 5		1·5	461·2
5.	Birbhum	368 4	18·2	0·2	0 1		2 3	6 2	7 3	13 7		0·5	411 9
6	Bankura	340 5	7 0	0 3	0 1		0 4	2 0	2 1	4 8		0 1	357 3
7	Midnapore	610 0	1 1				0 3	65 3	2 0	12 5	0 4	1 8	692 9
8	Hooghly	161 5	0 6					3 5	1 7	30 4			197 7
9	Howrah	54 0						0 1	0 8	3 5			57 9
10	Jalpaiguri	160 4					1 5	0 4	0 1	3 0		.	165·4
11	Darjeeling	34 0	0 3	0 1			5 4	0 1	0 1	6 0			46·0
12	Malda	24 0	0 8							2 2			27·0
13	West Dinajpur	21 0	1 8	0·8					0 8	8 0			32·4
14	Cooch Behar							1 0		2 0		23 5	26 5
	Total West Bengal	2,416 9	39 2	2 4	0 2		9 9	89 6	26 0	159 1	0 4	27 4	2,771 1

TABLE No. A 36(a)

Crops Irrigated in Different Districts of West Bengal for the Year 1954-55

(In thousand acres)

	Districts	Crops irrigated: Rice	Wheat	Barley	Jowar	Bajra	Maize	Other cereals and pulses	Sugar-cane	Other food crops	Cotton	Other non-food crops	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	24-Parganas	90 3	0 2					1 8	1 2	20 0			113 5
2	Nadia	9 2	0 4					0 5	1 0	1 2			12 3
3	Murshidabad	124 6	10 0	1 0				2 5	3 0	6 0		0 4	147 5
4	Burdwan	383 5	4 0	0 5				7 1	4 0	35 0		1 2	435 3
5	Birbhum	376 8	11 0	0 4	0 1		2 0	6 3	6 0	10 0		0 5	413 1
6	Bankura	279 1	9 0	0 3			0 8	1 9	2 3	3 0		0 1	296 5
7	Midnapore	560 3	0 9				0 4	60 5	2 0	4 0		0 4	628 5
8	Hooghly	139 8	0 5					3 6	1 2	27 0	.		172 1
9	Howrah	44 7						0 1	0 3	3 0			48 1
10	Jalpaiguri	154 5					1 7	0 5	0 1	2 8			159 6
11	Darjeeling	41 5	0 3	0 1			5 8	0 1	0 1	5 0			52 9
12	Malda	26 6	1 1							2 0	.		29 7
13	West Dinajpur	28 0	1 7	0 7					0 6	7 0			38 0
14	Cooch Behar							0 9		1 8		26 4	29 1
	Total West Bengal	2 258 0	39 1	3 0	0 1		10 7	85 8	21 8	127 8		29 0	2,576 2

TABLE No. A·37

Classification of area in different districts of West Bengal for the year 1953-54

(In thousand acres)

Districts	Total Geographical Area: By profes-sional survey	Total Geographical Area: Deduct the area under Pak bounded enclaves for which the returns for agricultural statistics are not available	Total Geographical Area: Net area by professional survey for which the returns for agricultural statistics are available	Classifications: Forests (¹)	Classifications: Not available for Cultivation.	Classifications: Other uncultiva-ted land excluding current fallow	Classifications: Current fallow	Classifications: Net area sown	Classifications: Total cropped area	Classifications: Area sown more than once
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) 24-Parganas	3,630 2		3,630 2	1 042 8	609 2	271 0	33 5	1,672 8	1,927 0	254 2
(2) Nadia	965 8		965 8		120 2	105 0	107 5	633 1	963 5	330 4
(3) Murshidabad	1,326 1		1,326 1		178 1	97 7	23 5	1,026 8	1,447 1	420 3
(4) Burdwan	1 731 5		1,731 5		364 2	120 3	38 0	1,209 0	1,303 5	94 5
(5) Birbhum	1,115 5		1,115 5		175 2	44 1	15 2	881 0	1,000 4	119 4
(6) Bankura	1,694 0		1,694 0		342 0	241 2	167 4	943 4	1,007·5	64 1
(7) Midnapore	3,362 0		3 362 0		687 2	255 8	204 7	2,214 3	2,349 1	134 8
(8) Hooghly	773 4		773 4		140 5	29 4	2 5	601 0	674 0	73 0
(9) Howrah	358 5		358 5		80 8	16 2	8 0	253 5	304 7	51 2
(10) Jalpaiguri	1,519 6		1,519 6	361 3	241 2	208 0	30 4	678 7	712 9	34 2
(11) Darjeeling	767 8		767 8	289 0	180 0	51 8	27 3	219 7	256 1	36 4
(12) Malda	890 9		890 9		87 0	50 1	32 2	721 6	916 3	194 7
(13) West Dinajpur	886 7		886 7		144 0	44 2	25 2	673 3	789 3	116 0
(14) Cooch Behar	846 5	23 1	823 4	15 4	94 7	105 8	38 2	569 3	656 8	87 5
Total West Bengal	19,868 5	23 1	19,845 4	1,708 5	3,444 3	1,641 5	753 6	12,297 5	14,308 2	2 010 7

TABLE No A·37(a)

Classification of area in different district of West Bengal for the year 1954-55

(In thousand acres)

Districts	Total geographical area: By profes-sional survey	Total geographical area: Deduct the area under Pak bounded enclaves for which the return for agricultural statistics are not available	Total geographical area: Net area by professional survey for which the return for agricultural statistics are available	Forests (¹)	Net area not available for cultivation	Classifications: Other un-cultivated land excluding current fallow	Classifications: Current fallow	Classifications: Net area sown	Classifications: Total cropped area	Classifications: Area sown more than once
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 24-Parganas	3,630 2		3,630 2	1,042 8	612 0	266 4	30 0	1,670 0	1,938 0	268 0
2 Nadia	965 8		965 8		129 4	97 2	100 5	638 7	979 0	340 3
3 Murshidabad	1,326 1		1,326 1		180 3	102 4	42 2	1,001 2	1,405 1	403 9
4 Burdwan	1,731 5		1,731 5		365 4	119 5	58 0	1,188 6	1,266 6	78 0
5 Birbhum	1 115 5		1,115 5		178 0	42 1	78 4	817 0	910 1	93 1
6 Bankura	1,694 0		1,694 0		343 0	240 2	281 2	829 6	880 1	50 5
7 Midnapore	3,362 0		3,362 0		690 0	253 0	219 0	2,200 0	2,315 0	115 0
8 Hooghly	773 4		773 4		142 2	29 3	12 5	589 4	652 8	63 4
9 Howrah	358 5		358 5		83 6	16 0	18 7	240 2	281 8	41 6
10 Jalpaiguri	1,519 6		1,519 6	361 3	268 0	205 5	49 4	685 4	685 4	50 0
11 Darjeeling	767 8		767 8	289 0	183 5	50 4	26 8	218 1	257 2	39 1
12 Malda	890 9		890 9	.	87 8	56 5	85 3	661 8	805 5	144 2
13 West Dinajpur	886 7		886 7		144 9	45 0	26 4	670 4	779 4	109 0
14 Cooch Behar	846 5	23 1	823 4	15 4	95 2	105 3	66 7	540 8	629 8	80 0
Total West Bengal	19 868 5	23 1	10,845 4	1,708 5	3,503 3	1,628 8	1,104 1	11,900 7	13,785 8	1,885 1

(¹) Only the reserved forests and protected forests have been taken into account.

TABLE No. A·38

Area under different crops grown in West Bengal (follows Table No. 9·9)

(Area in '000 acres)

Crop	1955-56	1956-57	1957-58
Rice			
Autumn	1,296·0	1,268·1	
Winter	8,816·6	8,750·7	.
Summer	41·4	44·4	
Total	10,154·0	10,063·2	
Other Cereals			
Wheat	154·7	201·1	
Barley	109·0	173·1	
Jowar	4·1	2·5	
Bajra	0·3	0·4	
Maize	125·6	126·6	
Ragi	23·8	24·3	
Other cereals	24·5	24·6	
Total cereals	10,596·0	10,615·8	
Pulses			
Gram	468·2	426·1	
Tur (Arhar)	57·1	38·7	.
Khariff Pulses	35·4	42·1	.
Rabi Pulses (Other than gram and Tur)	1,137·9	905·4	
Total	1,698·6	1,412·3	

Crop	1955-56.	1956-57.	1957-58.
Oilseeds			
Til	11·1	10·9	.
Mustard	224·3	177·5	
Linseed	90·2	118·4	
Other oilseeds	14·1	5·1	
Total	339·7	311·9	.
Fibres			
Jute	779·5	671·7	
Mesta	102·7	296·8	
Sunnhemp	13·7	12·4	.
Cotton	0·1	0·1	
Other crops			
Sugarcane	60·9	56·4	
Potato	115·3	116·4	
Tobacco	38·4	37·8	
Ginger	1·3	1·4	
Chillies	16·2	16·8	..

TABLE No. A·39

Production of different crops grown in West Bengal (follows Table No. 9·10)

(In '000 tons)

Crop	1955-56	1956-57	1957-58.
Rice			
Autumn	409·3	375·4	
Winter	3,718·8	3,941·5	
Summer	17·6	19·8	
Total	4,145·7	4,336·7	
Other cereals			
Wheat	43·4	25·4	
Barley	29·4	29·1	
Jowar	1·1	0·6	
Bajra	0·1	0·1	
Maize	37·0	37·5	.
Ragi	5·5	5·8	
Other cereals	5·1	5·3	
Total cereals	4,267·3	4,440·5	
Pulses			
Gram	137·3	106·0	.
Tur (Arhar)	17·0	7·1	
Khariff pulses	9·4	9·8	
Rabi Pulses (Other than gram and tur)	216·7	142·0	
Total	380·4	261·9	

Crop	1955-56	1956-57	1957-58.
Oilseeds			
Til	2·1	2·0	
Mustard	34·4	24·5	
Linseed	11·1	7·3	..
Other oilseeds	2·2	1·4	
Total	49·8	35·2	
Fibres			
Jute [1]	1,957·8	1,344·7	.
Mesta [1]	611·5	803·6	..
Sunnhemp [1]	24·5	19·3	..
Cotton [2]	(a)	(a)	..
Other crops			
Sugarcane	1,289·5	1,106·4	..
Potato	386·2	305·3	.
Tobacco	11·1	9·5	.
Ginger (dry)	0·6	0·6	
Chillies (dry)	7·8	9·1	

TABLE No. A·40

Average yield rate of different crops grown in West Bengal (follows Table No. 9·13)

(In mds. per acre)

Crop	1955-56	1956-57	1957-58
Rice			
Autumn	8·60	8·06	
Winter	11·48	12·26	
Summer	11·54	12·11	
Total	11·11	11·73	
Other cereals			
Wheat	7·63	3·44	
Barley	7·33	4·58	
Jowar	7·05	6·00	
Bajra	6·50	6·00	
Maize	8·03	8·06	
Ragi	6·30	6·50	
Other cereals	5·67	5·87	
Total cereals	10·96	11·38	
Pulses			
Gram	7·98	6·77	
Tur (Arhar)	8·10	4·98	
Khariff pulses	7·24	6·31	
Rabi pulses (Other than gram and tur)	5·18	4·27	
Total	6·28	5·11	

Crop	1955-56	1956-57	1957-58.
Oilseeds			
Til	5·09	4·99	
Mustard	4·17	3·75	
Linseed	3·34	1·68	
Other oilseeds	4·12	7·47	
Total	3·99	3·09	
Fibres			
Jute [3]	2·51	2·00	..
Mesta [3]	3·17	2·7	
Sunnhemp [3]	1·79	1·56	
Cotton [4]	0·33	0·47	.
Other crops			
Sugarcane	576·38	533·98	..
Potato	91·17	71·40	.
Tobacco	7·87	6·83	
Ginger (dry)	11·77	11·74	
Chillies (dry)	13·05	14·73	

[1] In '000 bales of 400 lbs each [2] In '000 bales of 392 lbs each [3] In bales of 400 lbs each [4] In bales of 392 lbs each

(a) = below 50 tons/bales

TABLE No. A·41

Average acreage under and production of principal crops—All India and West Bengal

Crops	Average area ('000 acres)			Average Production ('000 tons)			Yield rate (mds /acre)	
	India	West Bengal	Col (3) as per cent to Col (2)	India	West Bengal	Col (6) as per cent to Col (5).	India	West Bengal.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	75,153	10,046	13 4	24,191	4,111	17 0	8 76	11 21
Total cereals	202,877	10,447	5 1	49,490	4,228	8 5	6 64	11 01
Pulses	50,783	1,628	3 2	9,504	402	4 2	5 13	6 72
Potato	636	105	16 5	1,833	405	22 1	288 21	105 19
Sugarcane	4,120	52	1 3	5,263	100	1 9	127 74	52 26
Tobacco	845	39	4 6	241	11	4 6	7 76	7 62
Oilseeds	28,247	313	1 1	5,192	50	1 0	5 00	4 35
Cotton	16,381	1	(a)	3,642(1)	(b)		2 22(3)	2 47(3)
Jute	1,564	712	45 5	3,891(2)	1,929(2)	49 6	2 49(4)	2 71(4)
Mesta	527	73	13 8	870(2)	237(2)	27 2	1 65(4)	3 25(4)

TABLE No. A·42

Area irrigated and crops irrigated in India and West Bengal (figures in thousand acres) (†)

Name of crops	India		West Bengal	
	Area	Per cent to total	Area	Per cent to total
Rice	24,395	42 91	2,381	89 85
Jowar	1,303	2 29	(c)	
Bajra	959	1 69	(c)	
Maize	1,149	2 02	13	0 49
Wheat	8,645	15 21	30	1 13
Barley	3,670	6 46	3	0 11
Ragi	942	1 66	(c)	
Total cereals	41,489	72 98	2,427	91 59
Gram	2,502	4 40	(d)	
Tur	30	0 05	(d)	
Other pulses (excluding gram and Tur)	2,255	3 97	(d)	
Total pulses	4,787	8 42	69	2 60
Total food grains	46,276	81 40	2,496	94 19
Sugarcane	2,887	5 08	28	1·06
Other food crops	2,549	4 48	101	3 81
Total food crops	51,712	90 96	2,626	99 06
Cotton	1,261	2 22		
Other non food crops	3,880	6 82	25	0 94
Total under all crops	56,853		2,650	
Net area irrigated	51,888		2,568	

TABLE No. A·43

(a) Small Irrigation Schemes in West Bengal.

	No of Schemes	Area benefited	
1951-52	975	306,000	acres
1952 53	920	272,200	,,
1953 54	333	123 006	,,
1954-55	341	98 750	,,
1955-56	394	120,098	,

(b) Fertilisers and manures distributed in (tons).

	1953 54	1954 55	1955-56
Amonium Sulphate	17,500	13,060	13,500
Super Phosphate	2,340	2,050	400
Fertiliser Mixture	10,140	13,000	9,000

(c) Pumps distributed.

	Nos
1951-52	310
1952-53	143
1953 54	106
1954 55	146
1955-56	88

(d) Output of work of the Scheme for Reclamation of Waste Land by Government Tractor in West Bengal.

Year	Area reclaimed	(In acres) Follow up cultivation
1951-52	8,294 00	10,417 00
1952-53	4,933 00	7,181 00
1953-54	6,599 00	8,021 00
1954-55	3,894 24	5,302 43
1955-56	3 078 35	5,615 60
1956-57 (up to September)	1,809 04	4,411 87

(1) In thousand bales of 392 lbs each
(2) In thousand bales of 400 lbs each
(3) In bales of 392 lbs each
(4) In bales of 400 lbs each
(a) Less than 0 5 per cent
(b) Less than 500 bales.
(c) Less than 500 acres
(d) Included in total pulses.
(†) Average for 5 years ending in 1953-54

TABLE No. B·1

Area under Winter Rice (Aman) in West Bengal, 1937- to 1946-47 (1)

(Area in thousand acres)

	District	1937 38	1938 39	1939-40	1940 41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	Average.
1	24-Parganas	815 0	929 4	928 5	918 5	994 4	996 8	1,378 3	1,299 0	1,260 0	1,350 0	1,087 0
2	Nadia	154 5	165 6	160 1	165 6	169 0	169 1	218 5	280 0	188 0	271 0	194 1
3	Murshidabad	433 0	429 0	429 0	395 0	420 7	412 4	525 6	502 0	471 0	452 0	447 9
4	Burdwan	514 1	547 0	572 9	434 9	657 1	460 2	747 3	1,060 0	972 0	1,028 0	699 4
5	Birbhum	595 1	628 4	620 5	207 4	578 5	601 0	743 8	714 0	701 0	704 0	615 0
6	Bankura	396 7	411 2	412 9	398 1	426 3	411 5	513 5	712 0	684 0	749 0	511 5
7.	Midnapore	1,408 0	1,200 7	1,382 8	1,303 0	1 463 2	1,418 9	1,766 3	1 946 0	1,918 0	1,972 0	1,577 9
8	Hooghly	270 0	278 0	245 0	251 0	280 0	265 0	336 0	474 0	346 0	412 0	315 7
9	Howrah	101 5	101 0	84 7	196 0	179 0	193 1	235 2	227 0	192 0	220 0	172 9
10	Jalpaiguri	237 7	282 0	288 6	272 0	200 0	243 1	327 5	414 0	235 0	274 0	286 4
11	Darjeeling	57 6	57 6	57 6	57 6	57 6	57 0	70 8	57 0	59 0	59 0	59 1
12.	Malda	84 5	84 8	90 0	76 1	180 8	95 2	309 8	311 0	298 0	276 0	180 6
13	West Dinajpur	318 7	321 2	325 6	271 6	320 9	275 3	493 8	550 0	577 0	584 0	398 8
	Total West Bengal	5,380 4	5 435 0	5,598 2	5,006 8	6 026 5	5 598 6	7 666 4	8,546 0	7,901 0	8,301 0	6,546 7

TABLE No. B 1(a)

Production of Winter Rice (Aman) in West Bengal, 1937-38 to 1946-47 (1)

(Production in thousand maunds)

	District	1937-38	1938-39	1939 40	1940-41	1941-42	1942 43	1943 44	1944-45	1945-46	1946-47	Average
1	24 Parganas	10 112 5	10,399 6	9 570 0	7 647 2	14 326 2	9,345 1	19,847 5	14 800 0	9 400 0	13,388 0	11,883 6
2	Nadia	1 931 2	1,391 0	1 152 7	1,026 7	1,757 6	1,572 6	2 709 4	2,500 0	1,400 0	2,399 0	1,784 0
3	Mrushidabad	6,018 7	5 405 4	5 148 0	2,330 5	4 726 7	2 556 9	6 517 4	5,300 0	4,440 0	4,330 0	4,678 4
4	Burdwan	5,912 2	5,688 8	5,958 2	2,261 5	8 213 8	2 853 2	10 013 8	10,500 0	8,500 0	11,380 0	7,128 1
5	Birbhum	6,843 6	7,855 0	7 756 2	1,096 3	7 231 2	3,726 2	9,223 1	7 900 0	7,500 0	8,298 0	6,742 5
6	Bankura	4,958 8	3 454 1	5,161 2	2,866 3	5,328 8	2,139 8	6,367 4	5,700 0	6,000 0	8,808 0	5,078 4
7	Midnapore	28,372 8	12 487 3	15 902 2	13,551 2	16,826 8	7,378 3	21,902 1	16,900 0	16,800 0	20,667 0	16,528 8
8	Hooghly	2,808 0	2 613 2	2,303 0	2,108 4	3,220 0	1,643 0	4,166 4	3,600 0	2,600 0	3,827 0	2,888 9
9	Howrah	1,167 2	1 161 5	440 0	2,038 4	1,682 6	1,390 3	2,016 5	1,800 0	900 0	1,650 0	1,514 7
10	Jalpaiguri	2,353 2	3,609 6	3,607 5	2,828 8	3,480 0	2,431 0	4,061 0	3,200 0	1,700 0	2,335 0	2,960 6
11	Darjeeling	662 4	662 4	662 4	662 4	72 0	649 8	877 9	673 0	696 0	737 0	700 3
12	Malda	794 3	707 1	1,035 0	471 8	1,880 3	885 4	4,182 3	3,200 0	2,700 0	2,989 0	1,898 5
13	West Dinajpur	2,095 8	3,404 7	3 451 4	2 037 0	3 690 4	2,037 2	6,123 1	4 600 0	5,800 0	4,875 0	3,901 5
	Total West Bengal	69 030 7	58 020 7	62,148 2	40,920 5	73,084 4	38,608 8	98,907 9	80 073 0	67,896 0	85,678 0	67,678 3

(1) Excluding estimates for Cooch Behar district On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough

TABLE No. B·2

Area under Autumn Rice (Aus) in West Bengal, 1937-38 to 1946-47 (1)

(Area in thousand acres)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	Average
1	24-Parganas	86 4	99 0	91 6	79 4	100 1	95 9	128 1	160 0	163 0	147 0	115 0
2.	Nadia	308 6	324 0	308 6	303 4	303 4	305 8	287 3	317 0	305 0	268 0	303 1
3	Murshidabad	258 0	259 0	256 0	250 9	270 7	272 3	288 5	307 0	320 0	236 0	271 8
4	Burdwan	30 8	32 8	31 8	34 8	55 0	38 3	52 4	67 0	62 0	88 0	49 3
5	Birbhum	58 9	61 9	60 9	16 0	54 7	60 0	60 4	56 0	34 0	92 0	55 5
6	Bankura	172 4	155 5	153 5	151 6	161 1	166 1	170 6	194 0	71 0	143 0	153 9
7	Midnapore	243 4	247 1	239 2	249 0	242 8	266 4	243 6	112 0	52 0	110 0	200 5
8	Hooghly	30 0	27 0	24 0	21 0	34 6	33 0	35 0	65 0	48 0	49 0	36 7
9	Howrah	6 9	6 9	6 6	2 9	6 2	7 0	14 0	13 0	6 0	4 0	7 3
10	Jalpaiguri	94 0	94 0	93 6	87 2	94 2	96 3	96 8	48 0	46 0	41 0	79 1
11	Darjeeling	3 7	3 7	3 7	3 7	3 7	4 1	5 0	8 0	5 0	5 0	4 6
12	Malda	117 1	99 8	99 8	99 8	127 2	127 2	202 2	197 0	187 0	145 0	140 2
13	West Dinajpur	42 7	42 7	39 9	35 0	59 6	71 5	81 6	79 0	68 0	64 0	58 4
	Total West Bengal	1,452 9	1,453 4	1,409 2	1,334 7	1 513 3	1,543 9	1,665 0	1,623 0	1,367 0	1 392 0	1 475 4

TABLE No. B·2(a)

Production of Autumn Rice (Aus) in West Bengal, 1937-38 to 1946-47 (1)

(Production in thousand maunds)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	Average
1.	24-Parganas	670 1	540 6	691 3	527 4	978 4	794 1	1,306 3	1,631 0	1,043 0	1,682 0	904 0
2.	Nadia	2,889 1	1,814 4	1,975 0	2,245 2	3 034 0	1 651 3	2,873 0	2,661 0	1 983 0	1,849 0	2 292 5
3	Murshidabad	2,141 4	336 7	2,201 6	1,831 6	2 707 0	2 232 9	3,144 6	5,311 0	2,400 0	1,746 0	2,405 3
4.	Burdwan	283 4	301 8	178 1	222 7	610 5	241 3	524 0	516 0	552 0	730 0	416 0
5.	Birbhum	541 9	687 1	676 0	89 6	607 2	378 0	658 4	706 0	305 0	708 0	535 7
6	Bankura	1,758 5	1,290 6	1,703 8	712 5	1,643 2	1,362 0	1,859 5	1,319 0	277 0	1,359 0	1,328 5
7	Midnapore	2,482 7	2,520 4	1,985 4	1,842 6	2,476 6	1,678 3	2,119 8	549 0	209 0	770 0	1,663 3
8	Hooghly	276 0	224 1	134 4	134 4	352 9	237 6	420 0	819 0	331 0	392 0	332 2
9	Howrah	63 5	51 1	31 0	29 6	51 5	57 4	152 6	131 0	32 0	28 0	62 8
10	Jalpaiguri	958 8	695 6	692 6	802 2	960 8	789 7	789 7	386 0	340 0	238 0	665 3
11	Darjeeling	34 0	34 0	34 0	34 0	34 0	41 0	50 0	47 0	51 0	52 0	41 1
12	Malda	971 9	89 8	918 2	828 3	1,297 4	801 4	2,466 8	1,536 0	1,141 0	856 0	1,090 7
13	West Bengal	354 4	474 0	367 1	234 5	548 3	586 3	889 4	810 0	511 0	506 0	528 1
	Total West Bengal	13,375 7	9,060 2	11,588 5	9,534 6	15,296 8	10,851 3	17,343 6	16,422 0	9,175 0	10,916 0	12,356 4

(1) Excluding estimates of Cooch Behar district. On the basis of available records, the estimates have been calculated out after the partition of the State and as such, are rough.

TABLE No. B·3

Area under Summer Rice (Boro Rice) in West Bengal, 1937-38 to 1946-47 ([1])

(Area in thousand acres)

Districts	1937-38	1938-39	1939 40	1940 41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	Average
1. 24-Parganas						0 4	0 3	0 2	0 1	0 1	0 1
2. Nadia	0 2	0 2	0 2	0 2	0 2	0 2	0 2	0 4	1 7		0 4
3. Murshidabad	2 1	2 0	2 1	1 9	2 2	2 6	3 7	6 9	4 8	4 6	3 2
4 Burdwan	0 5	0 6	0 7	0 5	0 6	0 6	0 6	2 7	0 5	0 5	0 8
5 Birbhum								0 2			
6 Bankura	0 2	0 1	0 1	0 1	0 1	0 2	0 2	0 2	0 2	0 3	0 2
7 Midnapore	3 3	3 4	10 8	3 0	3 5	9 5	9 8	17 7	17 7	18 5	9 7
8 Hooghly	1 0	1 5	1 5	1 5	1 4	1 7	1 7	5 4	1 6	1 5	2 0
9 Howrah	0 3	0 3	1 8	12 0	12 0	11 5	11 5	2 2	1 0	2 2	5 5
10 Jalpaiguri											
11 Darjeeling	0 6	0 6	0 6	0 6	0 6	0 6	1 0	1 0	1 0	1 0	0 8
12 Malda	9 7	9 8	9 7	9 4	9 6	24 3	21 2	18 7	17 5	16 9	14 7
13 West Dinajpur	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 2		0 5	0 1
Total West Bengal	18 0	18 6	27 6	20 1	30 3	51 7	50 3	55 8	46 1	46 1	37 6

TABLE No. B·3(a)

Production of Summer Rice (Boro Rice) in West Bengal, 1937-38 to 1946-47 ([1])

(Production in thousand maunds

Districts	1937-38	1938 39	1939 40	1940 41	1941-42	1942-43	1943-44	1944 45	1945-46	1946-47	Average
1 24 Parganas						5 4	3 4	2 3	0 9	1 0	1 3
2 Nadia	2 1	2 1	1 4	1 7	2 1	2 3	2 0	2 7	9 2		2 6
3 Murshidabad	23 7	24 6	25 0	18 2	28 4	34 1	40 3	72 4	49 0	46 9	36 2
4 Burdwan	6 0	7 9	8 3	4 1	7 0	6 8	6 8	27 5	4 6	5 1	8 5
5 Birbhum								2 0			0 2
6 Bankura	2 9	1 2	1 3	1 1	1 3	2 4	2 2	2 2	1 7	3 4	2 0
7 Midnapore	35 3	32 6	128 5	35 7	37 4	96 9	110 7	180 5	145 1	162 8	96 5
8 Hooghly	9 6	12 4	14 4	12 4	11 6	19 0	19 0	60 5	14 4	16 4	19 0
9. Howrah	4 3	3 6	19 3	128 4	128 4	117 3	123 1	22 4	8 2	24 9	58 0
10 Jalpaiguri											
11 Darjeeling	7 1	8 6	8 6	7 1	8 6	8 2	13 0	13 0	13 6	13 6	10 3
12 Malda	115 4	127 4	115 4	111 0	114 2	267 3	265 0	233 8	218 8	172 4	174 1
13 West Dinajpur	1 1	1 3	1 2	0 9	0 9	0 8	0 8	1 6		3 4	1 2
Total West Bengal	207 5	221 7	323 1	721 5	140 8	560 5	586 0	621 5	465 5	449 9	409 9

([1]) Excluding estimates of Cooch Behar district. On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough

TABLE No. B-4

Area under Total Rice (Aman, Aus and Boro) in West Bengal, 1937-38 to 1946-47 ([1])

(Area in thousand acres)

	Districts	1937 38	1938 39	1939-40	1940-41	1941-42	1942 43	1943 44	1944-45	1945-46	1946-47	Average
1	24-Parganas	901 4	1,028 4	1 020 1	997 9	1,094 5	1,093 1	1,506 7	1,459 2	1,428 1	1,497 1	1,202 2
2	Nadia	468 8	489 8	468 9	469 2	472 6	475 1	506 0	597 4	494 7	539 0	497 6
3	Murshidabad	693 1	690 0	687 1	647 8	702 6	687 3	817 8	815 9	795 8	692 6	723 0
4	Burdwan	545 4	580 4	605 4	470 2	712 7	499 1	800 3	1,129 7	1,034 5	1,116 5	749 4
5	Birbhum	654 0	690 3	681 4	283 4	633 2	661 0	804 2	770 2	735 0	796 0	670 9
6.	Bankura	569 3	566 8	566 5	549 8	587 5	577 8	684 3	906 2	755 2	892 3	665 6
7	Midnapore	1,654 7	1,451 2	1,632 8	1 555 0	1,709 5	1,604 8	2,019 7	2 075 7	1,987 7	2,100 5	1,788 2
8	Hooghly	301 0	300 5	270 5	273 5	316 0	299 7	372 7	544 4	395 6	462 5	354 2
9	Howrah	108 7	108 2	93 1	210 9	197 2	211 6	260 7	242 2	199 0	226 2	185 8
10	Jalpaiguri	331 7	370 0	382 2	359 2	384 2	339 4	423 8	462 0	281 0	315 0	365 4
11	Darjeeling	61 9	61 9	61 9	61 9	61 9	61 7	76 8	66 0	65 0	65 0	64 4
12	Malda	211 3	194 4	190 5	185 3	317 6	246 7	533 2	526 7	502 5	437 0	335 5
13	West Dinajpur	361 5	364 0	365 0	300 7	380 6	346 0	575 5	629 2	645 0	598 5	457 3
	Total West Bengal	6,857 3	6 907 9	7 015 0	6,370 8	7 570 1	7 191 2	9 381 7	10 224 8	9 314 1	9,730 1	8 059 5

TABLE No. B-4(a)

Production of total rice (Aman, Aus and Boro) in West Bengal, 1937-38 to 1946-47 ([1])

(Production in thousand maunds)

	Districts	1937 38	1938 39	1939-40	1940 41	1941 42	1942-43	1943-44	1944 45	1945-46	1946 47	Average
1	24 Parganas	10 782 6	10,940 2	10 261 3	8,174 0	15 290 0	10,144 6	21 247 2	16,433 3	10 443 9	15,071 0	12 879 8
2	Nadia	4 772 4	3 207 5	3,120 1	3 273 6	4 703 7	5,226 2	5 584 4	5 163 7	3,302 2	4,248 0	4,070 1
3	Murshidabad	8 183 8	5,706 7	7,374 6	4,180 3	7,462 1	4,823 0	9 702 3	10,683 4	6,849 0	6,122 9	7,114 9
4	Burdwan	6,201 6	5,098 5	6 144 6	2,488 3	8 832 2	3,101 3	10,544 6	11,043 5	9,056 6	12,115 1	7,552 6
5	Birbhum	7 385 5	8 542 1	8,432 2	1,185 0	7,838 4	4 104 2	9,881 5	8,608 0	7,805 0	9,001 0	7 278 4
6	Bankura	6,720 2	4,745 0	6 866 3	3,570 0	6 071 3	3 504 2	8 229 1	7 021 2	6 278 7	10,170 4	6408 9
7	Midnapore	25 890 6	15 040 3	18 016 1	15 429 5	10 340 8	9,153 5	24,132 1	17,029 5	16 654 1	21 590 8	18,288 6
8	Hooghly	3,093 6	2,849 7	2,451 8	2 255 2	3 584 5	1 899 6	4,605 4	4,479 5	2 945 4	4,235 4	3,240 0
9	Howrah	1 235 0	1 216 2	490 7	2 196 4	1 862 5	1,565 0	3,102 2	1 953 4	940 2	1 702 9	1,635 5
10	Jalpaiguri	3 312 0	4,905 2	4 400 1	3 631 0	4 440 8	3 220 7	4,850 7	3,556 0	2 040 0	2 571 0	3 625 9
11	Darjeeling	703 5	705 0	705 0	703 5	702 6	690 0	941 5	733 6	760 0	802 6	751 7
12	Malda	1 881 0	1,014 3	2 068 6	1,412 0	3,201 9	1 954 1	6,914 1	4 060 8	4,059 8	4 017 4	3,158 4
13	West Dinajpur	3,951 3	3 880 0	3 819 7	2 272 4	4 289 6	2 624 3	7,013 3	5 411 6	6 911 0	5,384 4	4 480 6
	Total West Bengal	83 513 9	68,311 6	71,060 1	50 782 6	88,722 0	50 020 6	1,10,898 4	97,716 5	77,536 5	97 041 9	80 411 6

([1]) Excluding estimates of Cooch Behar district On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough.

TABLE No. B·5

Area under Wheat Crop in West Bengal, 1937-38 to 1946-47 (1)

(Area in thousand acres)

	Districts.	1937-38.	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1	24-Parganas								0 1		
2	Nadia	7 6	11 1	10 9	9 4	9 4	9 4	10 0	9 2	9 2	8 2
3	Murshidabad	43 7	49 3	48 4	47 0	48 6	50 5	49 1	42 2	49 8	44 0
4	Burdwan	1 4	1 5	1 5	0 9	1 2	1 3	1 4	6 9	2 8	2 4
5	Birbhum	4 0	4 0	4 0	2 9	2 9	4 0	3 9	10 7	10 7	3 7
6.	Bankura	5 4	5 3	5 2	4 6	4 7	5 5	6 2	11 0	6 0	6 3
7	Midnapore	0 6	0 6	0 5	0 6	0 6	0 5	0 6	2 2	1 6	1 5
8	Hooghly	0 2	0 2	0 2	0 1	0 1	0 2	1 0	1 2	0 1	0 1
9	Howrah								0 1		..
10	Jalpaiguri	0 6	0 5	0 6	0 6	0 6	0 6	0 7	1 9	2 0	1 0
11	Darjeeling	3 4	3 4	3 4	3 4	3 4	3 4	3 1	3 4	3 4	3 4
12	Malda	38 9	35 5	38 8	38 8	38 4	38 8	39 2	11 1	30 8	36 1
13	West Dinajpur	1 3	1 3	1 2	1 1	1 1	1 3	1 4	3 1	1 7	1·8
	Total West Bengal	107 1	112 7	114 7	109 4	111 0	115 5	116 6	108 1	118 1	108 5

TABLE No. B·5(a)

Production of Wheat in West Bengal, 1937-38 to 1946-47 (1)

(Production in thousand maunds)

	Districts	1937 38	1938 39	1930-40	1940 41	1941-42	1942-43	1943-44	1944-45	1945-46.	1946-47
1	24-Parganas			.					0 9		
2	Nadia	48 6	71 0	69 8	52 6	60 2	63 9	68 0	55 2	46 0	55 3
3	Murshidabad	397 7	330 3	311 3	244 4	320 8	388 8	33 9	244 8	249 0	277 2
4.	Burdwan	12 3	18 2	13 2	5 8	8 6	10 8	11 6	46 9	21 0	17·2
5.	Birbhum	35 2	35 2	35 2	18 5	23 2	30 0	29 2	72 8	67 4	24 9
6.	Bankura	47 5	46 6	45 8	33 1	37 6	37 4	42 2	74 8	40 8	47 0
7	Midnapore	3 8	3 8	2 4	1 9	4 3	3 6	4 5	11 9	9 3	10 1
8.	Hooghly	1 4	1 3	1 3	0 6	0 0	1 2	6 8	8 2	0 7	0·6
9.	Howrah								0 0		..
10	Jalpaiguri	5 0	4 0	4 8	4 8	4 3	4 1	5 2	13 5	12 6	7 6
11	Darjeeling	32 0	32 0	32 6	32 6	32 6	30 6	27 9	30 6	30 6	30·6
12	Malda	240 0	227 2	248 3	186 2	215 0	407 4	266 6	83 2	184 8	243·6
13	West Dinajpur	10 4	10 4	0 6	0 0	9 0	9 4	10 6	23 6	10 7	11 3
	Total West Bengal	843 5	775 6	787 3	589 5	716 2	982 2	806 5	667 3	672 9	725 4

(1) Excluding estimates of Cooch Behar district On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough.

TABLE No. B·6

Area under Gram Crop in West Bengal, 1937-38 to 1946-47 ([1])

(Area in thousand acres)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1	24-Parganas	1 2	1 1	1 1	1 1	1 1	1 7	1 3	8 9	6 6	4 6
2	Nadia	52 7	80 2	69 5	69 5	69 5	93 2	107 6	105 1	104 8	74 0
3.	Murshidabad	104 8	112 9	108 8	108 5	113 2	127 6	118 5	133 9	111 3	111 5
4.	Burdwan	2 9	3 2	3 3	5 3	5 8	5 7	5 8	16 2	5 8	5 9
5	Birbhum	7 0	7 1	7 0	3 7	5 7	12 2	11 5	18 7	11 8	11 0
6.	Bankura	1 5	1 2	1 2	1 1	1 2	1 9	1 9	3 0	2 8	1 6
7	Midnapore	3 1	3 1	2 8	1 6	1 6	1 5	1 7	2 7	2 7	2 2
8	Hooghly	3 2	4 0	4 0	4 0	4 0	4 5	4 5	3 4	4 1	4 0
9	Howrah	0 1	0 1	0 1	0 8	0 9	0 8	0 8	0 6	0 8	1 1
10	Jalpaiguri									.	
11	Darjeeling										
12	Malda ..	7 7	7 7	7 6	7 5	7 4	23 0	16 7	25 2	24 5	23 7
13	West Dinajpur .	0 3	0 3	0 3	0 3	0 3	0 3	0 3	5 2	0 3	1 3
	Total West Bengal	184 5	220 9	205 7	203 4	210 7	272 4	270 6	317 0	275 5	240 9

TABLE No. B·6(a)

Production of Gram Crop in West Bengal, 1937-38 to 1946-47 ([1])

(Production in thousand maunds)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1	24-Parganas	9 3	9 8	9 7	8 8	9 9	15 2	10 1	70 3	45 8	41 2
2	Nadia	358 4	609·5	528 2	472 6	528 2	838 8	785 5	714 7	513 5	360 7
3	Murshidabad	702 2	869 3	761 6	683·6	973 5	1,084 6	782 1	776 6	756 8	793 6
4	Burdwan	24 4	29 8	30 7	31 3	48 7	46 2	56 8	110 2	87 7	43 1
5	Birbhum	65 1	59 6	70 7	18 9	47 9	98 8	93 2	100 0	68 4	64 3
6	Bankura	15 2	10 1	11 2	8 4	11 2	16 3	15 0	23 4	17 1	12 9
7	Midnapore	23 6	21 1	23 5	13 4	12 2	8 4	12 4	15 7	15 7	12 8
8	Hooghly	24 3	30 4	33 6	33 6	33 6	36 0	36 0	27 2	26 2	31 2
9	Howrah	0 9	0 8	0 8	6 7	7 6	6 5	6 5	4 4	5 8	8 9
10	Jalpaiguri		.	.	.	.					
11	Darjeeling			.	.						
12	Malda	58 5	64 7	57 8	50 2	56 2	167 9	121 9	204 1	198 4	154 8
13	West Dinajpur	2 5	2 6	2 6	2 0	1 8	1 9	1 7	30 2	1 6	6 3
	Total West Bengal	1,284 4	1,707 7	1,530 4	1,320 5	1,780 8	2,320 6	1,921 2	2 076 8	1,687 0	1,529 8

([1]) Excluding estimates of Cooch Behar district On the basis of available records, the estimates have been calculated out after the partition of the State, and as such, are rough

TABLE No. B. 7

Area under Rape and Mustard in West Bengal, 1937-38 to 1946-47 (1)

(Area in thousand acres)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1.	24-Parganas	5 7	5 7	5 7	5 9	5 7	6 1	6 4	8 0	5 6	8 0
2.	Nadia	7 5	18 9	22 3	22 3	15 1	27 1	29 2	11 9	11 7	13 5
3.	Murshidabad	21 4	21 9	21 4	20 8	21 8	21 8	21 9	10 0	10 0	9 5
4.	Burdwan	8 1	7 2	7 7	6 6	6 3	7 5	8 9	1 1	8 1	8·3
5	Birbhum	2 4	2 4	2 4	2 1	2 4	2 7	2 6	1 1	2 7	1·6
6	Bankura	5 4	4 9	5 1	5 2	5 7	5 0	6 0	1 6	1 6	5·1
7	Midnapore	9 3	5 8	5 8	5 8	5 8	5 5	7 6	9 0	7 4	7 5
8	Hooghly	2 0	1 9	1 9	2 0	1 9	2 1	2 3	0 7	2 0	2 7
9	Howrah	0 3	0 3	0 3	0 3	0 3	0 4	0 4	0 2	0 4	0 3
10	Jalpaiguri	33 7	34 1	34 9	34 8	35 0	36 2	36 6	33 9	35 4	40 0
11	Darjeeling	1 6	1 6	1 6	1 6	1 6	1 6	3 5	1 8	1 8	3 0
12	Malda	7 4	9 4	7 6	7 6	8 0	7 9	8 1	23 8	24 2	25 9
13	West Dinajpur	27 6	28 4	22 7	20 8	20 2	46 9	16 4	34 0	19 7	38 0
	Total West Bengal	132 4	139 5	139 4	135 8	129 8	171 7	149 9	137 1	130 6	152 6

TABLE No. B·7(a)

Production of Rape and Mustard in West Bengal, 1937-38 to 1946-47 (1)

(Production in thousand maunds)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1	24-Parganas	39 5	32 1	32 1	20 5	35 6	35 0	34 2	40 0	29 7	40 0
2	Nadia	43 5	98 3	129 3	78 1	87 6	140 1	128 5	39 3	46 8	57 5
3	Murshidabad	117 7	105 1	111 3	89 4	110 9	131 0	87 6	42 0	40 0	44 6
4	Burdwan	51 8	46 1	40 3	34 3	32 8	45 8	58 7	6 7	44 6	41 6
5	Birbhum	15 4	15 4	15 4	9 9	13 9	14 8	14 3	5 5	14 8	9 0
6	Bankura	34 5	23 0	29 6	23 9	29 6	29 5	30 0	7 0	8 0	23 5
7	Midnapore	48 4	27 3	27 3	30 2	30 2	27 5	33 4	45 0	34 0	34 5
8	Hooghly	11 6	11 0	12 2	10 4	8 9	11 6	12 2	3 5	10 0	13 5
9	Howrah	1 9	1 7	1 7	1 7	1 7	2 2	2 1	1 0	1 6	1·5
10	Jalpaiguri	185 4	107 8	202 4	201 8	203 0	191 0	190 3	176 3	215 9	244 0
11	Darjeeling	9 3	9 3	9 3	9 3	10 2	9 8	23 1	11 9	11 9	19 8
12	Malda	34 8	37 1	35 7	26 6	41 6	60 8	35 6	119 0	125 8	142 4
13	West Dinajpur	154 6	159 0	118 0	91 5	105 0	215 7	59 0	112 2	78 8	128 8
	Total West Bengal	748 4	763 2	773 6	636 6	720 0	926 7	709 0	609 4	661 9	800 6

(1) Excluding estimates of Cooch Behar district On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough

TABLE No. B·8

Area under Jute in West Bengal, 1937-38 to 1946-47 (1)

(Area in thousand acres.)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
1	24-Parganas	49 9	44 9	35 2	97 0	30 1	44 2	41 1	29 9	35 3	28 5
2.	Nadia	25 3	24 9	23 2	67 5	21 6	32 2	29 4	22 8	25 5	16 8
3.	Murshidabad	57 5	48 9	45 6	116 3	36 2	56 2	51 3	40 0	32 9	26 7
4.	Burdwan	1 1	1 5	1 4	19 8	5 5	6 2	7 1	5 8	4 7	3·2
5. / 6.	Birbhum / Bankura		..		1 0	0 2	0 4	0 3	0 3	0 3	0 3
7.	Midnapore .	3 4	4 0	3 4	24 4	7 5	12 7	9 5	9 7	9 2	6 7
8.	Hooghly ..	22 5	22 0	16 2	62 1	20 0	30 2	25 0	22 0	27 3	19 1
9.	Howrah ..	3 0	3 6		15 6	4 9	7 0	4 6	2 8	4 1	3 3
10	Jalpaiguri	20 1	21 1	14 2	56 3	18 4	31 8	25 2	25 6	22 8	17 7
11	Darjeeling	1 8	1 6	0 8	5 5	1 6	2 4	1 9	2 3	1 7	1·3
12	Malda ..	10 0	18 2	21 1	71 5	22 1	35 6	27 2	18 2	22 9	17 8
13.	West Dinajpur .	11 6	13 0	13 0	39 6	12 7	23 4	17 9	14 6	16 1	10 6
	Total West Bengal	206 2	203 7	174 1	576 6	180 8	282 3	240 5	193 5	202 8	152 0

TABLE No. B·8(a)

Production of Jute in West Bengal, 1937-38 to 1946-47 (1)

(Production in thousand bales of 400 lbs each.)

	Districts	1937-38	1938-39	1939-40	1940-41	1941-42	1842 43	1943-44	1944-45	1945 46	1946-47
1	24-Parganas	162 7	67 9	82 5	214 9	77 7	93 2	99 0	80 3	93 0	93 5
2	Nadia	73 4	52 3	65 0	148 5	60 5	87 7	77 4	73 1	79 1	50 3
	Murshidabad	175 0	22 2	104·2	186 1	103 7	135 0	139 4	102 3	94 7	85 3
4	Burdwan	4 0	3 9	3 0	42 5	16 5	20 2	13 5	17 1	14 8	11 3
5 / 6	Birbhum / Bankura		.		2 3	0 6	0 5	0 6	0 6	0 9	0 8
7	Midnapore	9 5	11 6	8 0	62 5	21 0	32 5	26 6	29 6	25 0	21 5
8	Hooghly	72 0	71 5	48 0	112 0	59 9	82 1	66 1	76 7	78 6	61 0
9	Howrah	9 6	8 3	7 2	37 6	12 4	21 4	13 1	8 5	10 1	10 7
10	Jalpaiguri	50 2	38 0	25 6	157 6	47 8	92 2	55 3	73 4	68 7	46 3
11.	Darjeeling	6 0	4 4	2 4	15 4	5 4	7 8	3 5	6 0	5 0	4 2
12	Malda	31 0	10 0	67 5	143 0	61 9	92 6	63 2	47 8	64 1	56 9
13	West Dinajpur	37 1	19 5	41 6	75 2	35 6	68 0	43 8	48 4	50 8	31 7
	Total West Bengal	630 5	310 5	455 0	1,197 6	503 0	734 1	601 5	563 8	584 8	478 5

(1) Excluding estimates of Cooch Behar district. On the basis of available records, the estimates have been calculated out after the partition of the State and, as such, are rough

TABLE NO. B·9

Areas under some principal crops in West Bengal, 1937-38 to 1946-47 (excluding Cooch-Behar)

(Area in thousand acres)

Year	Winter rice	Autumn rice.	Summer rice	Total rice.	Wheat	Gram	Rape and mustard.	Jute
1937-38	5,386 4	1,452·9	18 0	6,857·3	107·1	184 5	132·4	206·2
1938-39	5,435 9	1,453 4	18 6	6,907·9	112·7	220 9	139·5	203·7
1939-40	5,598 2	1,409 2	27·6	7,035·0	114 7	205·7	139 4	174·1
1940-41	5,006 8	1,334 7	29 3	6,370 8	109 4	203·4	135·8	576·6
1941-42	6,026 5	1,513 3	30 3	7,570 1	111·0	210 7	129 8	180·8
1942-43	5,598 6	1,543 9	51 7	7,194 2	115 5	272 4	171·7	282·3
1943-44	7,666·4	1,665 0	50 3	9,381 7	116 6	270 6	149 9	240·5
1944-45	8,546 0	1,623 0	55 8	10,224 8	103 1	317 9	137·1	193·5
1945-46	7,901 0	1,367 0	46·1	9,314 1	118·1	275 5	130 6	202·8
1946-47	8,301 0	1,392 0	46·1	9,739·1	108 5	240 9	152 6	152·0
Average	6,546 7	1,475 4	37 6	8,059 5	111·7	240 2	141·9	241·2

TABLE NO. B·9(a)

Production of some principal crops in West Bengal, 1937-38 to 1946-47 (excluding Cooch-Behar)

(Production in thousand tons)

Year	Winter rice	Autumn rice	Summer rice	Total rice.	Wheat	Gram	Rape and mustard.	Jute (in thousand bales)
1937-38	2,569 1	491 4	7 6	3,068 1	31 0	47 2	27·5	630 5
1938-39	2,164 9	332 9	8 1	2,505 9	28·5	62 7	28 0	310·5
1939 40	2,283 1	425 7	11 9	2,720 7	28 9	56 2	28 4	455 0
1940 41	1,503 5	350 3	11 8	1,865 6	21 6	48 8	23·4	1,197·6
1941 42	2,685 0	561 9	12 5	3,259 4	26 2	63 6	26·4	503·0
1942 43	1,418 4	398 7	20 5	1,837 6	36 1	85 2	34 0	734·1
1943-44	3,633 6	637·2	21 6	4,292 4	29 6	70 6	26 0	601·5
1944-45	2,963 8	603 3	22 8	3,589 9	24 5	76 3	22 4	563 8
1945-46	2,494 3	337 1	17 1	2,848 5	24 7	62 0	24·3	584 8
1946 47	3,147 6	401 0	16 6	3,565 2	26 5	56 1	29 4	473·5
Average	2,486 3	454 0	15 1	2,955 3	27 8	62 9	26 5	605·4

TABLE NO. B·9(b)

Yield rate of some principal crops in West Bengal, 1937-38 to 1946-47 (excluding Cooch-Behar)

(Yield rate in maunds per acre)

Year	Winter rice (cleaned rice)	Autumn rice (cleaned rice)	Summer rice (cleaned rice)	Total rice (cleaned rice)	Wheat	Gram	Rape and mustard	Jute (in bales)
1937-38	12 98	9 21	11 53	12 18	7 88	6 96	5 65	3·06
1938-39	10 84	6 23	11 92	9·87	6 88	7 73	5·47	1 52
1939-40	11 10	8 22	11·72	10 58	6·86	7·44	5·55	2·61
1940-41	8 17	7 14	10 97	7·97	5 39	6·54	4·69	2·08
1941-42	12 13	10 11	11·25	11·72	6 45	8·21	5·55	2·78
1942-43	6 90	7 03	10 84	6 95	8 50	8·52	5 40	2·60
1943-44	12 90	10 42	11 67	12 45	6 92	7·10	4·72	2·50
1944-45	9 44	10 12	11 14	9·56	6 47	6·53	4·44	2·91
1945-46	8 59	6 71	10·10	8·32	5 70	6 12	5·07	2·88
1946-47	10 32	7 84	9·76	9·96	6 69	6·85	5·25	3·12
Average	10·34	8·37	10·90	9·98	6 77	7·12	5·08	2·51

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